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**CHILD NUTRITION PROGRAM
OPERATIONS STUDY: First
Year Report**

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Analyst), Ellen Lee (Data Base Manager), Diane Stoner (Survey Director), Lyria Boast (Research Assistant), and Maureen Hume (Project Secretary)

**CHILD NUTRITION PROGRAM
OPERATIONS STUDY
FIRST YEAR REPORT**

EXECUTIVE SUMMARY

STUDY BACKGROUND

Under contract to the Food and Nutrition Service (FNS) of the U.S. Department of Agriculture, Abt Associates Inc. (AAI) of Cambridge, MA is conducting a multi-year study of the Child Nutrition Programs. This report presents findings from the first year of the study.

THE CHILD NUTRITION PROGRAMS

The school-based Child Nutrition programs operate in every State in the Nation. They include the National School Lunch Program (NSLP), the School Breakfast Program (SBP), the Food Donation Program (FDP), the Special Milk Program (SMP), and the Nutrition Education and Training Program (NET). State Administrative Expense (SAE) funding is provided for the NSLP, SBP, and SMP as well as for the Child and Adult Care Food Program (CACFP).

Administered by FNS, these programs represent an annual investment of over \$4 billion of Federal funds to establish, maintain, and operate non-profit school lunch and breakfast programs for the benefit of the Nation's school children.

PURPOSE OF THE STUDY

To manage the Child Nutrition programs effectively, FNS collects and analyzes information from annual State-level management reports. However, because these State-level reports vary considerably in both format and content, FNS is unable to rely on this source for all of its ongoing information needs. FNS also has many one-time information needs, in order to address current policy issues.

Consequently, FNS contracted with AAI to collect information from School Food Authorities (SFAs) through annual surveys to obtain information on issues that are of interest to FNS. Compared with

the alternative of conducting several special-purpose studies, the implementation of an ongoing data collection capability reduces FNS' information collection costs, lessens overall respondent burden, and reduces the length of time required to obtain the needed data.

The first year report describes the Child Nutrition programs and provides details about the methods used in carrying out the study. It presents findings in several areas including program participation, meal prices and meal costs, issues related to the Food Donation Program and the School Breakfast Program, claims reimbursement, use of Food Service Management Companies, SFA food service program characteristics, and SFA training and technical assistance.

RESEARCH APPROACH

The Child Nutrition Program Operations Study is designed to collect data from States and participating SFAs through annual telephone surveys during School Years (SY) 1988-89, 1989-90, and 1990-91 and through on-site visits during SY 1989-90 and 1991-92, with specific information needs for each data collection effort defined by FNS staff. The surveys provide a "snapshot" of administrative structure and, for selected research items that are included in each multiple surveys, an assessment of year-to-year changes in program operations.

In the first year of the study (SY 1988-89) two data collection components were designed and implemented during the spring of 1989: (1) a survey of all State Agencies and (2) mail and telephone surveys of a nationally-representative sample of 1,740 SFA managers. Data collected from the SFA survey is used to produce national estimates as well as estimates for the following subgroups of SFAs:

- public SFAs,
- private SFAs,
- SFAs that participate in both the NSLP and SBP,
- SFAs that participate only in the NSLP,
- high-poverty SFAs, and
- low-poverty SFAs.

Surveys were successfully completed for 44 States, for a response rate of 88 percent. The telephone survey of SFA managers yielded 1,407 completed interviews for an 81 percent response rate, while the mail survey of SFA managers yielded 1,113 completed interviews for a 64 percent response

rate. Potential nonresponse bias was counteracted by weighting the responding sample so that the number of lunches served nationally matches FNS' known universe counts for all SFAs and separately for high- and low-poverty SFAs. Most of the findings from the first year survey are referenced to SY 1988-89. However, some of the findings rely on end-of-year data, and hence reference the previous year (SY 1987-88).

FINDINGS

The major findings for the first year of the study are grouped into the following areas: participation in the NSLP and SBP, meal prices and meal costs, Food Donation Program operations, School Breakfast Program operations, meal counting systems, food service management companies, food service program characteristics, and training and technical assistance.

PARTICIPATION IN THE NSLP AND SBP

FNS has an ongoing interest in measuring and understanding participation in the Child Nutrition Programs because Federal subsidies are tied to the number of meals actually served. This study acquired data on the number of meals served in the NSLP and SBP during SY 1987-88 and used these data to compute National estimates of the number of meals served in each program, as well as to calculate student-level participation rates.

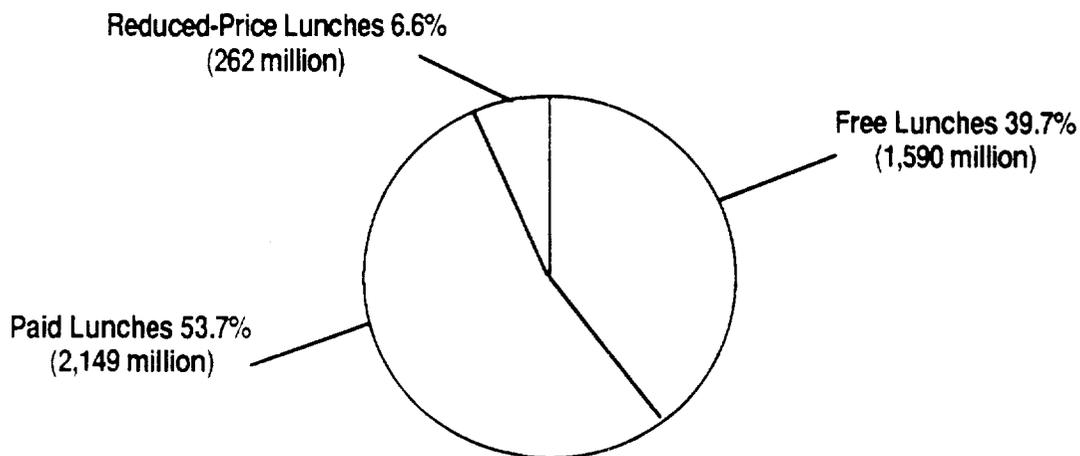
Estimated NSLP and SBP Participation. An estimated 4.0 billion lunches and 604 million breakfasts were served to school children in SY 1989-88. Almost all of the lunches and breakfasts were served in public schools (98 and 99 percent, respectively). Exhibit 1 shows the proportion of lunches and breakfasts served to children who qualified for free, reduced-price, and paid meals. Approximately 39.7 percent of all lunches were served free of charge to children from low income families, 6.6 percent were served at a reduced price, and 53.7 percent were served to children who paid full price for their lunch. Exhibit 1 also shows that almost all breakfasts (83.3 percent) were served free of charge, while 5.2 percent were served at a reduced price, and 11.5 percent were served at full price.

Student Participation Rates. Student participation rates are defined as the ratio of the number of

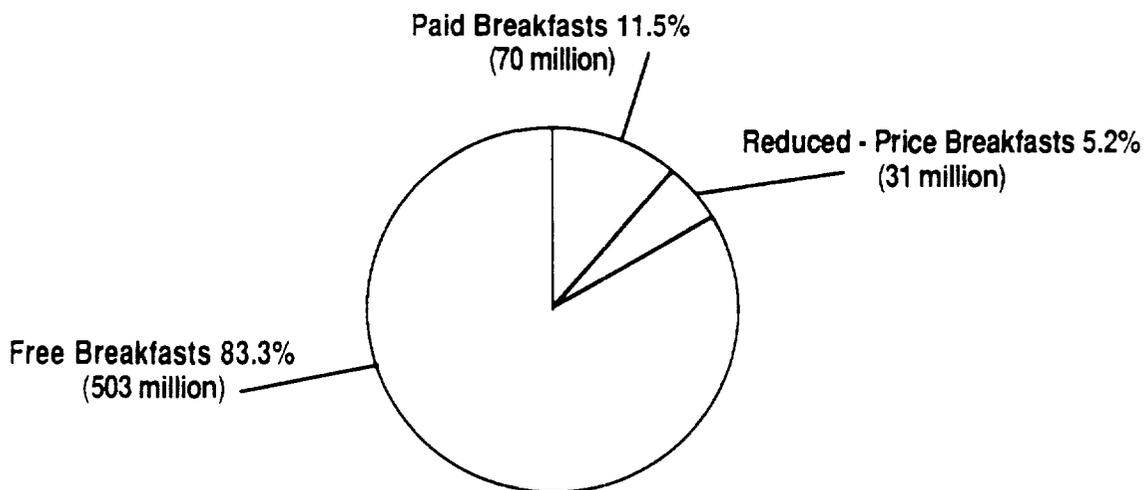
Exhibit 1

Total NSLP and SBP Participation (SY 1987 - 88)

National School Lunch Program



School Breakfast Program



meals served to eligible students during the year to the number of meals that could have been provided. Exhibit 2 shows that overall student participation in the NSLP was estimated to be 59.1 percent for SY 1987-88. That is, on an average day, 59.1 percent of the students who had the NSLP available to them actually participated in the program. This estimate is very close to the figure reported by the first National Evaluation of School Nutrition Programs (NESNP-I) of 61.4 percent^{1/} and to the estimate of 59.4 percent which can be calculated from FNS' administrative data.^{2/} NSLP participation rates are also estimated for children in each income-eligibility category: 89.7 percent for children who qualified for free meals, 73.0 percent for children who qualified for reduced-price meals, and 45.6 percent for children who paid full price.

Overall NSLP participation rates were higher in SFAs offering the SBP (63.1 percent), in small SFAs (68.8 percent), and in high-poverty SFAs (66.5 percent) than were participation rates in SFAs without the SBP (54.1 percent), in larger SFAs (57.5 percent), and in low-poverty SFAs (56.0 percent). Participation rates were also higher in elementary schools (71.6 percent) than in secondary schools (48.7 percent).

Exhibit 2 also shows that the overall student participation rate in the SBP was estimated to be 20.8 percent for SY 1987-88, almost identical to the estimate of 20.7 percent derived from FNS administrative data. Examined by income-eligibility category, SBP participation rates were 43.2 percent for children who received free meals, 14.9 percent for children who qualified for reduced-price meals, and 4.3 percent for children who paid full price.

MEAL PRICES AND MEAL COSTS

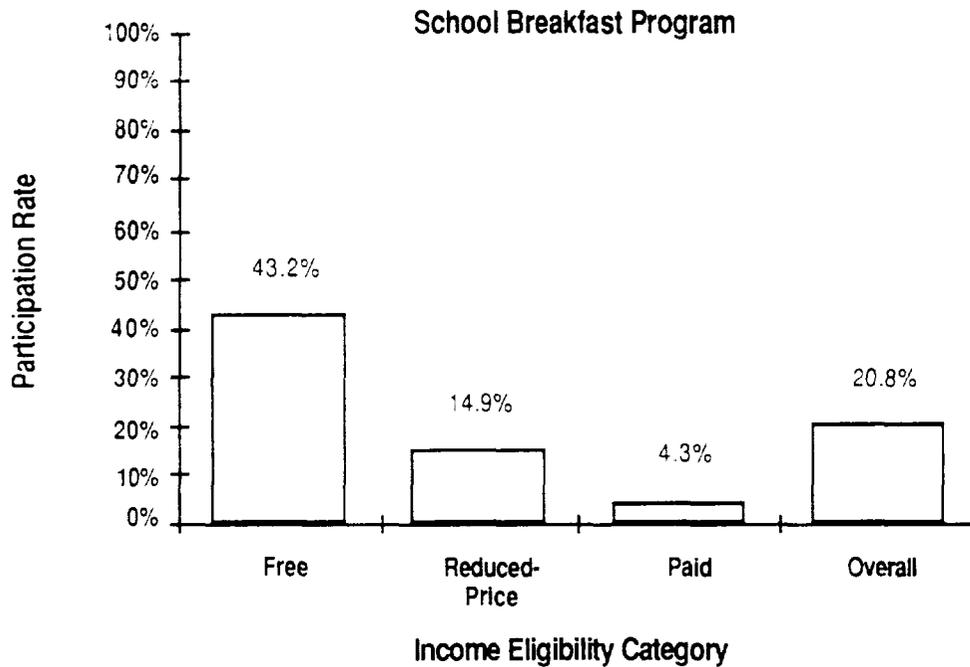
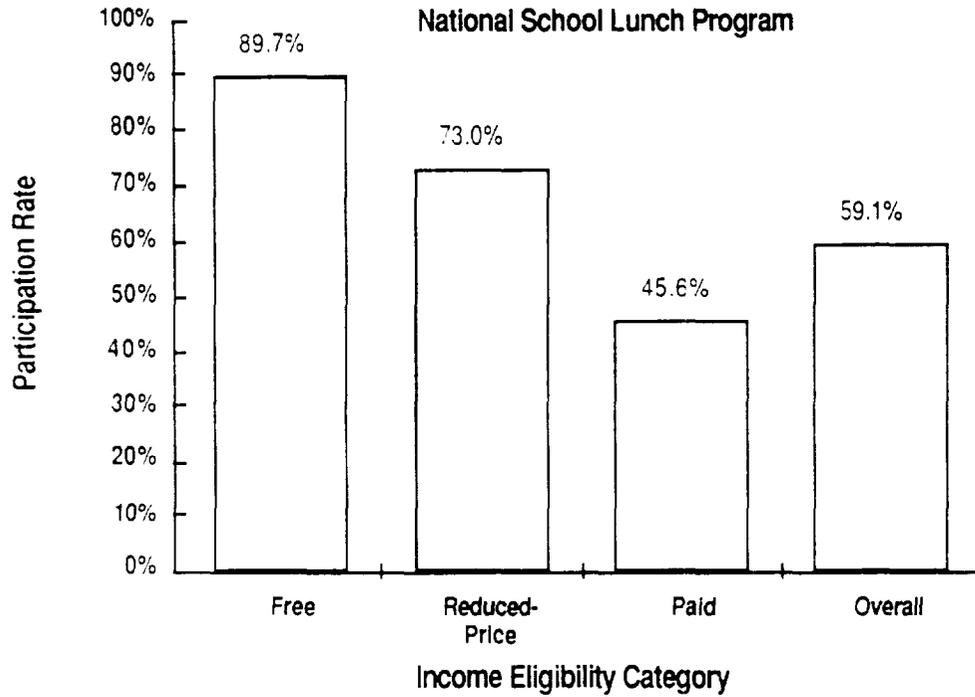
Previous research has shown that the price charged for an NSLP meal is a primary determinant of student participation decisions. This study acquired data on meal prices for SY 1988-89 as well as available

^{1/}Wellisch, J.B. et al., The National Evaluation of School Nutrition Programs: Final Report. Santa Monica, CA: Systems Development Corporation, 1983.

^{2/}Annual Historical Review of FNS Programs: Fiscal Year 1988. USDA, Food and Nutrition Service, 1989.

Exhibit 2

NSLP and SBP Student Participation Rates (SY 1987 - 88)



historical data on meal prices for the prior five years. The study also examined the cost of producing an NSLP meal, as reported by SFAs.

Meal Prices. The average price for a full-price NSLP meal during SY 1988-89 was \$.93 in elementary schools and \$1.03 in secondary schools (Exhibit 3). SFAs that participated in the SBP charged lower prices than SFAs that participated only in the NSLP (\$.91 vs. \$1.00), and high-poverty SFAs charged lower prices than low-poverty SFAs (\$.88 vs. \$.99). There was substantial variation in the price of a full-price lunch, with about a quarter of all SFAs charging less than \$.85, over half charging between \$.85 and \$1.05, and the remainder charging over \$1.05.

Reduced-price lunches averaged \$.38 with very little variation across types of SFAs or across grade levels. In large part this is due to the Federally-set ceiling of \$.40 on the price of a reduced-price lunch. The average price for a lunch served to adults in SY 1988-89 was \$1.55 in elementary schools and \$1.60 in secondary schools. As was the case with full-price lunches, there was substantial variation in the price of adult lunches from SFA to SFA.

The price charged for a paid SBP breakfast in SY 1988-89 was \$.48 in elementary schools and \$.50 in secondary schools (Exhibit 3). SBP prices were lower in small SFAs than in large SFAs (\$.44 vs. \$.53) and in high-poverty SFAs than in low-poverty SFAs (\$.45 vs. \$.51). The average price of a reduced-price SBP breakfast was \$.26 with little variation across types of SFAs or across grade levels. Finally, adult breakfast prices averaged \$.75 and were higher in private SFAs than in public SFAs (\$.93 vs. \$.74).

Changes in Lunch Prices. Most SFAs held the price of a paid NSLP meal constant between SY 1987-88 and SY 1988-89. Elementary school prices were increased in 24 percent of SFAs, by an average of \$.11, while prices in secondary schools were increased in 32 percent of SFAs, also by an average of \$.11. Only two percent of all SFAs raised the price of a reduced-price lunch between SY 1987-88 and SY 1988-89. This is not surprising since 85 percent of all SFAs charged the Federally-set maximum. Finally, the price of an adult lunch was more likely to change than the price of a student lunch. Forty-two percent of all SFAs increased the price of an adult lunch in elementary schools (by an average of \$.17)

and 46 percent increased prices in secondary schools (by an average of \$.16).

During the five-year period from SY 1983-84 to SY 1988-89, 70 percent of all SFAs raised the price of a paid lunch in elementary schools (by an average of \$.17) and 81 percent raised the price in secondary schools (by an average of \$.19). Over the same five-year period, more than three-quarters of all SFAs held the price of a reduced-price lunch constant both in their elementary and secondary schools, while over 80 percent increased lunch prices for adults.

Changes in the price of paid, reduced-price, and adult breakfasts between SY 1987-88 and SY 1988-89, and over the five-year period from SY 1983-84 to SY 1988-89, were similar in direction to changes in lunch prices.

Reported Meal Costs. To determine the cost of producing an NSLP meal, this study converted breakfasts, adult meals, and a la carte sales into NSLP lunch equivalents (LEQs) using an econometric model of the joint production process used to produce these various cafeteria outputs.

Exhibit 4 shows that the average SFA incurred costs of \$1.43 to produce an LEQ SY1987-88.^{1/} Production costs per LEQ were higher in large SFAs (average of \$1.65) than in small SFAs (average of \$1.30) or medium-sized SFAs (average of \$1.52).

However, the average cost of producing an LEQ in SY1987-88 was \$1.62.^{2/} This reflects the large number of meals produced in large SFAs, where reported costs per lunch are higher than in other SFAs.

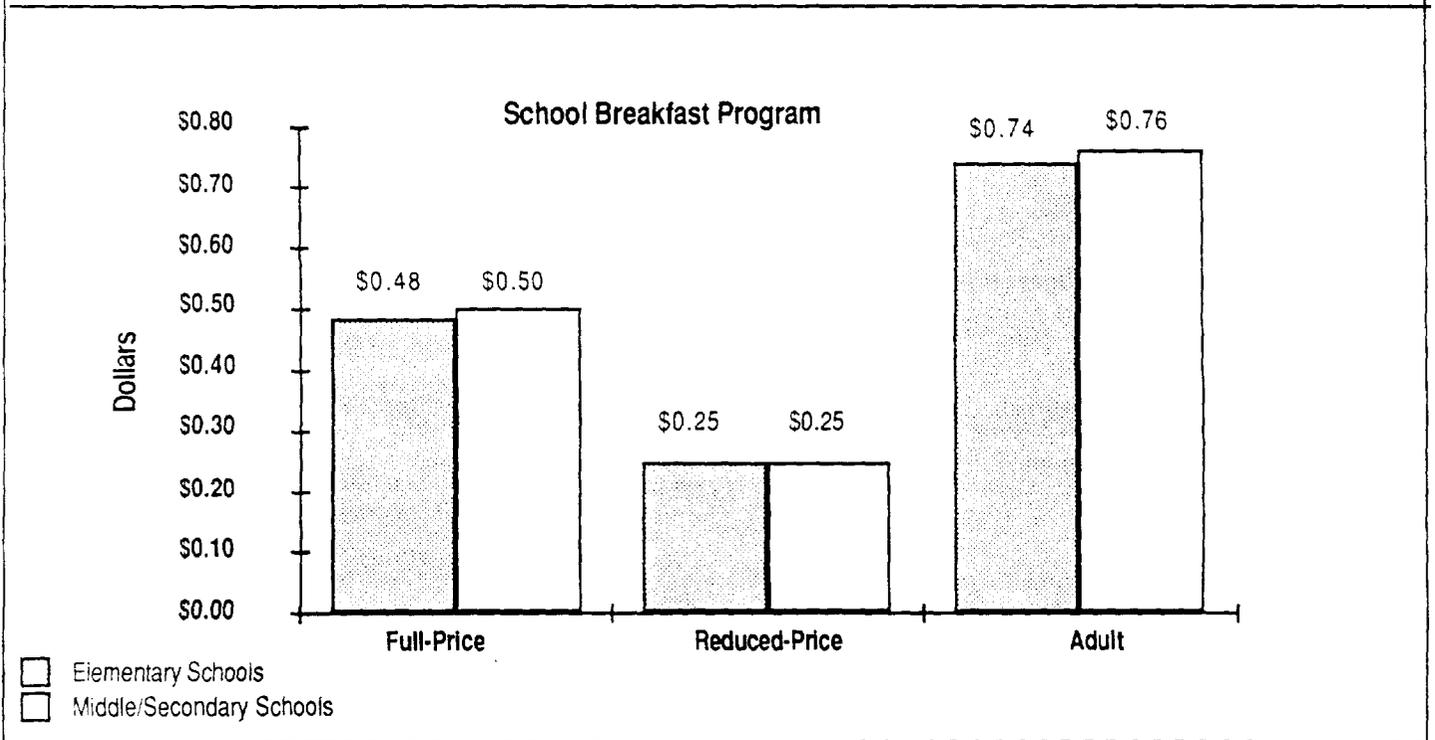
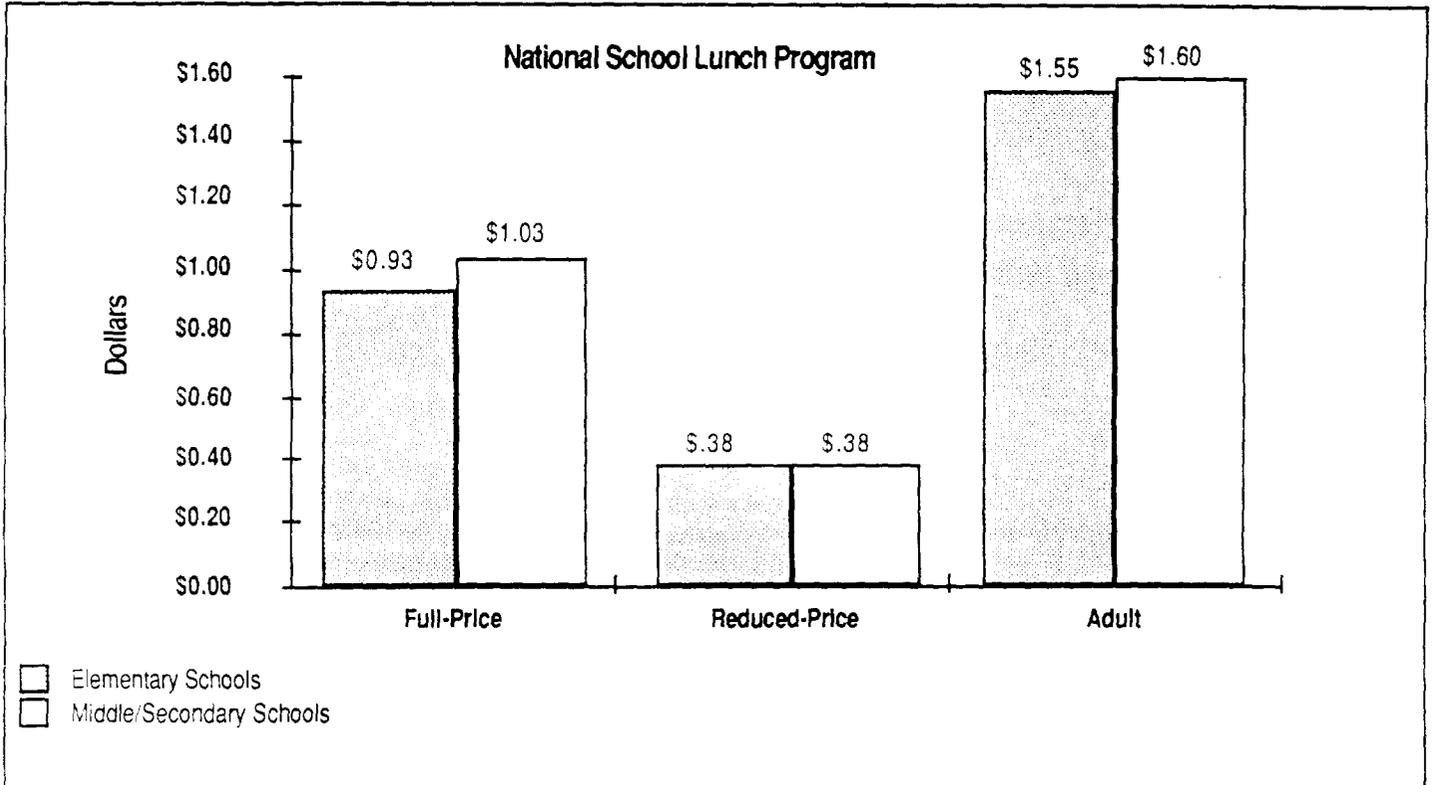
As one would expect, food and labor costs accounted for the vast majority of reported costs (Exhibit

^{1/}Calculated as the average cost per LEQ across all SFAs in the nation, i.e., the SFA is the unit of analysis. This analysis gives equal weight to each SFA, regardless of size.

^{2/}Calculated as the average cost per LEQ across all LEQs served in the Nation, i.e., the LEQ is the unit of analysis. This analysis gives equal weight to each LEQ, and since most LEQs are produced in large SFAs, the results are dominated by the costs incurred in large SFAs.

Exhibit 3

NSLP and SBP Meal Prices (SY 1988-89)



4). Based on the costs incurred by the average SFA, food costs, including the assigned value of donated commodities, accounted for 48 percent of reported costs, (\$.68 per LEQ in SY 1987-88). Labor costs accounted for 40 percent of reported costs (\$.57 per LEQ). All other costs including supplies, contract services, capital expenditures, indirect charges by the school district, and storage and transportation, represented only 12 percent of reported costs (\$.18 per LEQ). Roughly the same distribution of costs is observed when the LEQ is the unit of analysis.

USDA subsidies to SFAs for the NSLP and SBP include both cash reimbursement and donated commodities. The reimbursement rate for free lunches was \$1.405 in SY 1987-88. In addition, SFAs were eligible to receive \$0.12 per NSLP lunch in entitlement commodities and, subject to availability, all the bonus commodities that could be used without waste (about \$0.08 per NSLP lunch). Therefore, total USDA subsidy for free lunches averaged \$1.60 (\$1.405 + \$0.12 + \$0.08). This is about the same as the average reported cost of producing an LEQ (\$1.62). It is, however, somewhat greater than the reported cost of producing an LEQ for the average SFA (\$1.43).

FOOD DONATION PROGRAM

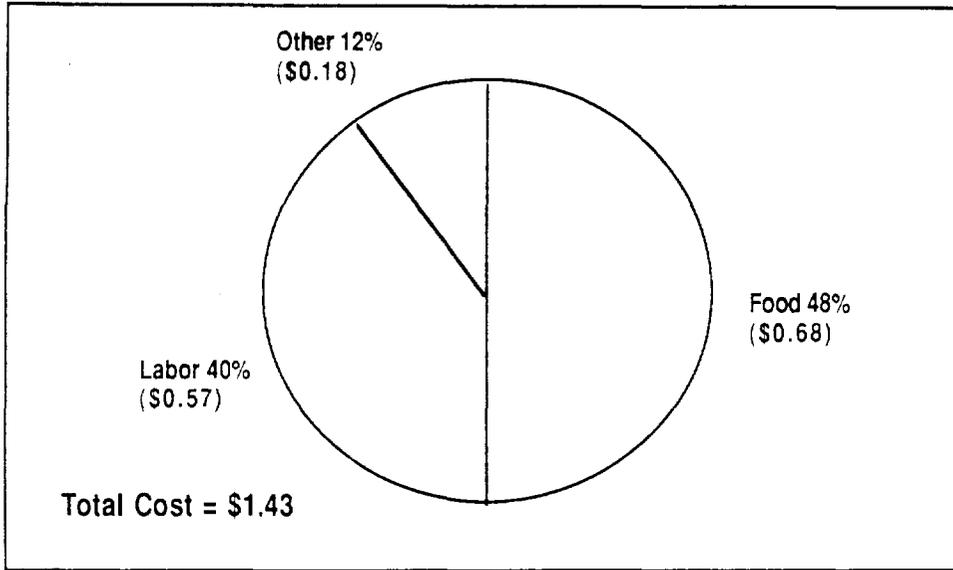
The Child Nutrition Programs have historically acquired large amounts of surplus agricultural commodities through the FDP. This study obtained data on several aspects of FDP operations in order to help FNS improve program operations.

State-Level Operations. Most (86 percent) of the 44 States that completed the survey were involved in processing donated commodities into various end-products. The products most frequently processed or repackaged under State agreements include cheese, flour and oil, chicken, and turkey. In disbursing processed products to SFAs, States used fee-for-service (84 percent of States), rebate (76 percent), and discount (66 percent) value pass-through systems.

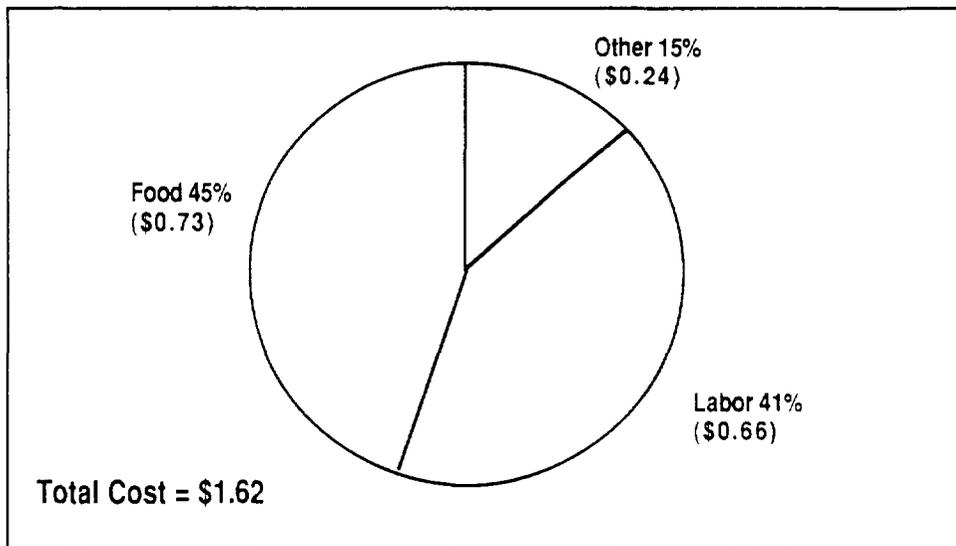
In about half of the States, processing was solely a State-level function, in another one-third of the States, processing occurred at both the State and SFA level, and in the remaining States, processing was either an SFA function or did not occur at all. SFA-level processing was more likely to occur in States that did not have active processing programs, a finding which is consistent with findings from the

Exhibit 4

Cost of Lunch in an Average SFA
(SFA is the Unit of Analysis)
(SY 1987-88)



Cost of an Average NSLP Lunch
(NSLP Meal is the Unit of Analysis)
(SY 1987-88)



Study of State Commodity Distribution Systems^{1/}

SFA-Level Operations. Ninety percent of all SFAs received donated commodities through the FDP. Of those that did participate, 84 percent indicated their preference for the form in which USDA commodities are received--either through direct ordering through States, State surveys, or special meetings or committees. The remaining 16 percent responded that they did not communicate their preferences to States.

Most SFAs reported that USDA commodities were delivered in acceptable condition. Only 17 percent of participating SFAs reported receiving any off-condition commodities during SY 1987-88. When problems did occur, the most frequently cited commodities were dairy products, fruit, and poultry.

About two-thirds of the SFAs that participated in the FDP obtained some donated commodities in a more usable form through the use of processing. Of these SFAs, 30 percent initiated at least one processing agreement themselves, using commodities such as cheese, beef, flour, chicken, ground beef, and pork, while 68 percent purchased processed end-products under State or National agreements.

SCHOOL BREAKFAST PROGRAM

For this study FNS requested information on the extent of institutional participation in the SBP, on factors that affected SFAs' and schools' decisions to participate in the SBP, on the extent to which severe-need school participated in the SBP, and on whether the typical breakfast offered in severe-need schools was different from breakfasts provided in other (non-severe-need) schools.

Institutional Participation in the SBP. An estimated 27 percent of all SFAs in the Nation participated in the SBP during SY 1988-89, meaning that they offered the SBP in at least one of their schools. Public SFAs, large SFAs, and high-poverty SFAs were more likely to offer the program than other types of SFAs.

The fact that an SFA participated in the SBP is no guarantee that all of the schools in that SFA

^{1/A} Study of the State Commodity Distribution Systems, USDA, Food and Nutrition Service, 1988.

offered the program. Almost half (49 percent) of the SFAs that participated in the SBP did not offer the program in all of their schools. Public SFAs, medium and large SFAs, and low-poverty SFAs were most likely to have schools that did not participate in the SBP. FNS program data indicate that the SBP was available in about 40 percent of all NSLP schools and to approximately 38 percent of all school-age children in the Nation.

Forty-three percent of the SFAs that participated in the SBP cited the nutritional needs of the students as a major reason for participation; 30 percent cited the poverty level of students as an influential factor, and 28 percent felt that eating breakfast was important for childrens' intellectual functioning.

The primary reasons that schools in participating SFAs did not offer the program were either logistical in nature or were related to a known or anticipated lack of interest. The most common reasons for non-participation were that the school had difficulty opening early (27 percent), the school expected low student participation (21 percent), there was a lack of transportation (17 percent), and the school board lacked interest (14 percent).

Participation Among Severe-Need Schools. Approximately half (48 percent) of all SFAs participating in the SBP during SY 1988-89 had at least one school that was eligible for severe-need reimbursement. While most of the eligible schools received the intended severe-need reimbursement, 26 percent of SFAs had one or more eligible schools that did not--the survey results estimate that 2,488 schools fell into this category. Most of these schools (65 percent) did not apply for the additional reimbursement because of the cost accounting requirements, because the school was unable to offer the program, or because the school "did not need the extra money."

Characteristics of SBP Meals. A wide variety of breakfast foods were available to students in the SBP during SY 1988-89. The typical SBP meal included milk (not chocolate), citrus juice, and either iron-fortified cold cereal or some type of bread or roll. The vast majority of SFAs (86 percent) offered some hot food, and more than half of the participating SFAs offered some choice in selecting breakfast foods.

Seventy-six percent of the SFA managers in districts with at least one severe-need school reported that they provided "enhanced" breakfasts. Thirty-one percent of SFAs that provided enhanced breakfasts served those breakfasts in all of their schools, regardless of whether the schools were eligible for severe-need reimbursement.

Breakfasts served in SFAs with severe-need schools were somewhat more likely to include hot foods, especially hot cereal, pancakes and waffles, eggs, bacon, ham, sausage, or cheese than breakfasts served in SFAs with no severe-need schools. However, breakfasts served in SFAs with severe-need schools were less likely to offer a choice of items to students.

MEAL COUNTING SYSTEMS

To ensure that reimbursement claims are accurate, all SFAs are required to have in place a mechanism for counting the number of meals served to children in each meal reimbursement category. However, audits conducted by the USDA Office of the Inspector General and administrative reviews performed by FNS indicate that, while most schools and SFAs operate in an accountable manner, there are problems with the NSLP meal accountability and claiming procedures used in some schools and SFAs^{1/}.

Meal Counting Systems. Over two-thirds of SFAs used two or more meal counting systems during SY 1988-89. The most popular system, used in 54 percent of SFAs, involved the use of coded tickets that indicate a child's eligibility status. Forty-six percent of SFAs had schools that provided lists to cashiers which identified children by name along with their related eligibility status. Other less-common systems included classroom counts that may or may not be verified at the point of service, attendance records, and ID card scanners.

Monitoring Meals for Reimbursability. In order for a meal counting system to be fully accurate, the system must ensure that only reimbursable meals are counted. SFA managers reported that such a monitoring system was in place in virtually all (99 percent) public schools. The recent Federal Review

^{1/}Federal Review Final Report. USDA, Food and Nutrition Service, Office of Analysis and Evaluation, February, 1990.

of this issue found that the meal counting systems in 15 percent of public schools did not yield an adequate count of reimbursable meals. The discrepancy between the two studies (1 percent vs. 15 percent) is probably due to the fact that the Federal Review results were based on on-site observations while the data from the present study reflect school policy as reported by the SFA manager, and actual practice may vary from written policy.

Monitoring Meal Counts. The accuracy of meal counts was monitored at both the school and the SFA level during SY 1988-89. Meal count accuracy was monitored in 94 percent of all schools, most often on a daily basis by food service personnel. The most common approach was a simple comparison of the number of meals claimed in each category with the number of students approved for free and reduced-price meals.

At the SFA level, 85 percent of SFAs monitored individual schools. The most common monitoring approach, used by 96 percent of SFAs, was to compare meal counts against the number of approved applications for each meal reimbursement category. Seventy-two percent of SFAs compared meal counts to attendance records, a method that probably provides a better cross-check since reviewers are able to identify eligible-but-absent children.

Accuracy of Reported Meal Counts. Data from FNS' Federal Review showed that schools claim 80 free meals for every 100 applications on file (claiming ratio = .80). In the present study, the average claiming ratio for SY 1987-88 was quite comparable, at .81. More than half (53 percent) of the schools in this study had claiming ratios above .85, 16 percent had claiming ratios above .95, and 7 percent exceeded 1.0.

These claiming ratios do not consider attendance, and thus may underestimate the likelihood of overclaiming. When attendance is taken into consideration, 41 percent of all schools had claiming ratios in excess of .95 and 26 percent had ratios above 1.0. These percentages are somewhat higher than those found in the FNS Federal Review study, probably because the present study includes a larger proportion of elementary schools, which do have higher claiming ratios than secondary schools.

FOOD SERVICE MANAGEMENT COMPANIES (FSMCs)

The use of FSMCs is on the rise in agencies that administer the Child Nutrition Programs. While FNS is aware of the approximate number of SFAs that contract with FSMCs, limited information is available on how SFAs actually use these for-profit companies, how SFAs select contractors, and the methods used to monitor performance.

An estimated 7 percent of SFAs (1,011 SFAs) employed a FSMC during SY 1988-89. When FSMCs were used, they participated at some level in virtually all major functions involved in administering school nutrition programs. Ninety percent or more of SFAs that used FSMCs delegated the responsibility for selecting vendors, determining prices and specifications, setting delivery dates, and planning and developing menus. The majority of SFAs that used FSMCs in SY 1988-89 (63 percent) paid a flat administrative fee. Thirty-five percent of SFAs reported use of a per-meal rate to determine or adjust the fee.

Decisions about FSMCs are almost always made by a local School Board, and FSMCs are almost always monitored. The ability to provide acceptable, high-quality meals is the most important factor in evaluating the performance of FSMCs.

FOOD SERVICE PROGRAM CHARACTERISTICS

Several topics related to food service operations were addressed in this study including food purchasing procedures, kitchen facilities and meal service systems, use of SFA facilities for programs other than the NSLP and SBP, use of the offer vs. serve (OVS) option in elementary schools, and nutritional analysis of menus.

Food Purchasing Procedures. Thirty-seven percent of SFAs used a competitive bid process in selecting all or most of their food vendors; 32 percent used competitive bids only for their largest orders, most often bread, milk, and ice cream; and 25 percent of SFAs never used competitive bids.

Only 23 percent of SFAs participated in purchasing cooperatives in SY 1988-89. Among those that did participate, the foods most frequently purchased included canned goods, staple items, and frozen foods.

Kitchen Facilities and Meal Service System. During SY 1988-89, 55 percent of SFAs operated exclusively with on-site kitchens, 22 percent used one or more base kitchens or a central kitchen to prepare meals for satellite or receiving kitchens, and combinations of two or more types of kitchen facilities were used in 23 percent of SFAs.

Most meals served in the NSLP and SBP were prepared and served in bulk. That is, foods were prepared in large quantities and served to individual children as they passed through a cafeteria line. Sixty-four percent of SFAs relied exclusively on bulk meal service, 11 percent used bulk meal service in combination with some type of pre-packaged meal service, and 10 percent used pre-packaged meals exclusively.

Use of SFA Facilities for Other Programs. During SY 1988-89, 28 percent of SFAs used their food service facilities for programs other than the NSLP and SBP: 15 percent prepared meals for elderly feeding sites, 12 percent provided NSLP and SBP meals for other SFAs, 11 percent served meals to day care centers participating in the Child and Adult Care Food Program, and 10 percent provided meals for the Summer Food Service Program.

Availability of Alternative Food Services. Children in middle/secondary schools had considerably more food alternatives available to them than children in elementary schools. A la carte lunch items were available more frequently in middle/secondary schools than in elementary schools (78 percent vs. 32 percent), as were a la carte breakfast items (41 percent vs. 18 percent). Vending machines and snack bars were also more prevalent in middle/secondary schools than in elementary schools. Forty-eight percent of SFAs had vending machines and 35 percent of SFAs had snack bars available in middle/secondary schools, while only 5 percent of SFAs had either of these options available in elementary schools. Finally, off-campus meal privileges were not widespread either in elementary (20 percent) or in middle/secondary schools (30 percent).

Offer vs. Serve in Elementary Schools. Approximately 64 percent of SFAs used the OVS option in elementary schools during SY 1988-89. Choice among NSLP entrees was available to middle/secondary school students in 75 percent of SFAs and to elementary school students in 40 percent of SFAs.

Nutritional Analysis of Menus. More than two-thirds of all SFAs analyzed the nutritional content of their menus in SY 1988-89. While only 9 percent used a computer-based system, 56 percent of all SFA managers indicated that they would be interested in receiving information on computer programs that facilitate nutritional analysis.

TRAINING AND TECHNICAL ASSISTANCE

Training and technical assistance are used in the Child Nutrition Programs to ensure that programs operate efficiently, that they comply with Federal regulations and policies, and that nutrition, high-quality meals are served to school children.

Training and Technical Assistance Provided by State Agencies. In SY 1988-89, all of FNS' State Agencies provided training or technical assistance related to menu planning, recordkeeping, and program regulations and procedures. Over 90 percent of all States also included food purchasing, food sanitation and safety, food preparation, merchandising, and use of commodities in their training and technical assistance programs. Technical assistance related to contracting procedures was not as consistently available, being offered by 70 percent of the States.

Over half (55 percent) of the States reported an increase in the level of training and technical assistance activities over the prior three years, while 36 percent reported no change and 9 percent reported a decrease.

Training and Technical Assistance Received by SFAs. Over half (51 percent) of all SFAs received some training or technical assistance during SY 1988-89. The topics most frequently covered were program regulations and procedures, and food sanitation and safety.

PART 1: STUDY BACKGROUND

Chapter I: Introduction

**Chapter II: Overview of the Child Nutrition Program
Operation Study**

I. INTRODUCTION

This report presents findings from the first year of the Child Nutrition Program Operations Study. This multi-year study is being conducted by Abt Associates Inc. (AAI) of Cambridge, Massachusetts under contract to the Food and Nutrition Service (FNS) of the U.S. Department of Agriculture (USDA).

The report consists of four major parts. Part 1 contains background information on the study and consists of two chapters. This introductory chapter reviews the purpose and objectives of the study and describes the school-based Child Nutrition Programs that are the focus of the study. Chapter II provides a detailed description of the Child Nutrition Program Operations Study, including the overall design of the study, its component surveys and the major research issues addressed in the first year. Sample selection procedures and data collection strategies are also discussed. The chapter concludes with a discussion of the approach utilized in analyzing and reporting data.

Part 2 of the report presents major findings from Year One of the study. Chapter III presents findings related to program participation; Chapter IV focuses on meal prices and meal costs; Chapter V presents information on issues related to the Food Donation Program; Chapter VI presents findings on the School Breakfast Program; Chapter VII discusses claims reimbursement; Chapter VIII presents findings related to School Food Authority (SFA)^{1/} utilization of Food Service Management Companies; Chapter IX includes data on a variety of SFA food service program characteristics; and finally, Chapter X discusses SFA training and technical assistance.

Part 3 of the report presents detailed statistical tables that support the discussions presented in Part 2. Finally, Part 4 contains a variety of appendices including details on sampling

^{1/}In the public domain, SFAs are normally school districts, and they oversee Child Nutrition programs in all participating schools in the district. In the private domain, it is more common for each school to be an SFA.

methodology, copies of survey instruments, analyses of nonresponse bias, and the methodology used in weighting data to produce national estimates.

PURPOSE AND OBJECTIVES OF THE STUDY

Administered by FNS, the school-based Child Nutrition Programs represent an annual investment of over \$4 billion of Federal funds to establish, maintain, and operate non-profit school lunch and breakfast programs for the benefit of the Nation's school children. To manage these programs effectively, FNS collects and analyzes information from State-level management reports. However, because these State-level reports vary considerably in both format and content, FNS is unable to rely on this data source for all of its information needs.

Consequently, FNS contracted with AAI to conduct a series of three annual surveys of approximately 1,700 SFAs to obtain information on issues that are of interest to FNS. Compared with the alternative of conducting several special-purpose studies, the implementation of an ongoing survey capability reduces FNS' information collection costs, lessens overall respondent burden, and reduces the length of time necessary to obtain required data.

The study has three overall objectives:

- 1) provide general descriptive information on the characteristics of the school-based Child Nutrition Programs required either for the preparation of program budgets (e.g., the forecasting of program participation and program costs), or to answer commonly asked questions related to issues such as meal costs, student participation, and SFA food service practices;
- 2) provide data on various aspects of program administration to inform the preparation of program regulations and reporting requirements; and
- 3) provide data that will support the training and technical assistance needs of SFAs.

In some cases the data required to meet these three objectives requires that information be collected from SFAs or States on an ongoing basis in order to observe changes over time. In other instances, the desire for information is a one-time need where the interest is in describing or assessing some aspect

of the Child Nutrition Programs. In either case, the primary goal is to provide FNS with information for specific functions such as budget projections, analysis of legislative options, design of regulations, or the development of technical assistance materials.

CHILD NUTRITION PROGRAMS

The school-based Child Nutrition Programs operate in every State in the nation. They include the National School Lunch Program (NSLP), the School Breakfast Program (SBP), the Food Donation Program (FDP), the Special Milk Program (SMP), and the Nutrition Education and Training Program (NET). State Administrative Expense (SAE) funding is provided for the NSLP, SBP and SMP as well as for the Child and Adult Care Food Program (CACFP).^{1/}

Brief descriptions of the three programs that are the focus of the Child Nutrition Program Operations Study (the NSLP, SBP and FDP) are presented below. The purpose and operation of each program is described, along with its legislative history. SAE funding is also discussed.

The National School Lunch Program

The NSLP is the largest and oldest Child Nutrition Program, with Federal contributions reaching \$3.72 billion in Fiscal Year (FY) 1988, including the value of donated commodities.

Program Description. The NSLP provides Federal subsidies for lunches served to children at all income levels in both public and private schools. Within the program there are two groups of participants--schools and children. Institutions eligible to participate are public schools, private non-profit schools, and public or licensed residential child care institutions. Any child in a participating school is eligible to purchase a school lunch. More than half of all children in

^{1/}Formerly known as the Child Care Food Program (CCFP). In 1989, P.L. 101-147 officially changed the name in recognition of the fact the program was expanded in 1987 (under P.L. 100-175) to serve chronically impaired adults and persons over the age of 60 in community-based adult day care centers.

schools and other participating institutions regularly participate in the NSLP.

Two forms of assistance are provided by USDA through the NSLP: cash payments (78 percent of Federal support in FY 1988) and donated foods (22 percent of Federal support in FY 1988). To be eligible for cash reimbursement, lunches served must meet meal pattern requirements specified by the Secretary of Agriculture. The lunch pattern is designed to provide, over a period of time, approximately one-third of a student's Recommended Dietary Allowance (RDA) for key nutrients.

Cash assistance is performance-based, i.e., per-meal reimbursement is provided to States on behalf of schools for school lunches that are actually served to eligible children. Under Section 4 of the National School Lunch Act, a uniform base level of cash is provided for every lunch served, regardless of the family income of the child. Under Section 11 of the National School Lunch Act, additional cash subsidies are provided for children receiving free or reduced-price lunches. Currently, students eligible for a free lunch are those from families with incomes at or below 130 percent of poverty. Reduced-price lunches may be served to students from families whose incomes fall between 130 and 185 percent of poverty. These students may be required to contribute up to \$.40 of their own money for the lunch. Finally, an additional \$.02 per lunch reimbursement is added for each meal served in schools in which 60 percent or more of the lunches in the second preceding year were claimed as free or reduced-price meals.

SY 1988-1989 per-meal lunch reimbursement rate was as follows:

	<u>Regular Reim-</u> <u>bursement Rates</u>	<u>Extra 2-cent Reim-</u> <u>bursement Rates</u>
Paid	\$.1400	\$.1600
Reduced-price	1.0625	1.0825
Free	1.4625	1.4825

Total cash reimbursements received by schools during FY 1988 amounted to \$2.9 billion.

States are required to provide matching funds of up to 30 percent of the amount of Section 4 assistance they received during FY 1980. The actual percentage match depends on the average per capita income in the State as compared with the national average.

States with average per capita incomes lower than the national average are required to contribute less than 30 percent.

Under Sections 6 and 14 of the National School Lunch Act, schools also receive agricultural commodities for use in school lunches. Entitlement commodity assistance, provided regardless of family income, is available for each meal served (about \$.1225 per lunch for SY 1988-1989) and is provided to States based on the actual number of meals served in the previous school year. The total value of entitlement commodities received by schools in FY 1988 was \$466.3 million.

In addition, the school lunch program may receive "bonus commodities"--commodities that do not count against the State's entitlement and which vary from year to year both in amount and types of commodities provided. In recent years, bonus commodities have been primarily dairy products. Bonus commodities distributed to schools in FY 1988 were valued at \$348.6 million. The total value of all commodities (entitlement plus bonus) received by schools during FY 1988 was \$814.9 million.

Peak levels of participation in the NSLP were reached in 1979 when a daily average of 27.0 million children ate school lunches. As shown in Exhibit I.1, the average number of meals served daily declined until FY 1982 but has been increasing since then to the level of 24.2 million daily lunches in FY 1989. This trend is due primarily to increasing numbers of children who pay full price for lunch.

Legislative History. From its inception, the NSLP has been closely tied to agriculture and farm commodities. In the 1930s, the Federal government purchased and distributed agricultural commodities to school lunch programs as a way to deal with farm surpluses and to support farm incomes. As early as 1932, some existing school lunch programs also received Federal loans to cover the cost of preparing and serving school lunches. Federal support became institutionalized in 1935 with the passage of Section 32 of the Agricultural Appropriations Act which authorized the direct purchase and distribution to school lunch programs of surplus farm commodities. During World War II, farm surpluses were generally unavailable. As a consequence, from 1943 to 1946, Section 32 funds were used for cash grants to schools to allow them to purchase foods locally. In 1944, Congress, for the first time, authorized that a specific amount of

Exhibit 1.1

Trends in National School Lunch Program Participation:
Average Daily Participation¹

Fiscal Year	Income-Eligibility Category			Total ²
	Free	Reduced-Price (Millions of Meals Served)	Paid	
1981	10.6	1.9	13.3	25.8
1982	9.8	1.6	11.5	22.9
1983	10.3	1.5	11.2	23.0
1984	10.3	1.5	11.5	23.4
1985	9.9	1.6	12.1	23.6
1986	10.0	1.6	12.2	23.7
1987	10.0	1.6	12.4	23.9
1988	9.8	1.6	12.8	24.2
1989	9.7	1.6	12.8	24.2

¹Average daily participation (ADP) represents the number of students participating in the program on an average day. The ADP is calculated by dividing the number of reported meals served by the number of operating days. These figures are based on 9-month averages computed for the months of October-May, plus September.

²Counts of free, reduced-price and paid meals may not sum to the total due to rounding.

Source: Annual Historical Review of FNS Programs: Fiscal Year 1989, USDA, Food and Nutrition Service, 1990.

Section 32 funds be used for school assistance without regard to the existence of farm surpluses.

The major piece of legislation affecting the NSLP was the National School Lunch Act of 1946. In this legislation, as in earlier actions, the program continued to be tied to agriculture. The twin goals of the program were: "To safeguard the health and well-being of the Nation's children" and "to encourage domestic consumption of agricultural commodities..." The Secretary of Agriculture was authorized to make payments to States on a matching basis and according to a need formula. Allocation of funds was on the basis of the number of children in the State. Funds were authorized for non-food assistance, such as food service equipment, and for administrative expenses. Lunches served were required to meet nutritional standards set by the Secretary. At this point, the program consisted entirely of general assistance, or what is now referred to as Section 4 funding.

In 1949, Section 416 of the Agricultural Act (P.L. 81-430) authorized the Secretary to provide commodities acquired through price support operations to the NSLP. These were in addition to those authorized under Section 32 of the 1935 Act. In 1962, attention was drawn to the needs of children in low-income families and P.L. 87-823 established a new funding authority, Section 11, for schools drawing students from low-income areas. Under this legislation, the basis for allocation of funds to States was changed to lunch program participation in the preceding year as well as need (as measured by average per capita income).

The Child Nutrition Act of 1966 continued the expansion of the program, authorizing new funds for State administrative expenses, equipment assistance, nonfood assistance and for the general assistance program.

The 1970 Amendments to the School Lunch Act (P.L. 91-248) for the first time established uniform national guidelines for eligibility for free and reduced-price lunches. In 1971, a per-meal reimbursement figure and guaranteed reimbursement levels for free and reduced-price lunches were established (P.L. 92-153). Throughout the 1970s amendments to the Act continued to expand the program and increase the levels of subsidy. The 1973 Amendments (P.L. 93-150) established that the mandated reimbursement rates were to be indexed to compensate for inflation and adjusted semi-

annually. The 1975 Amendments (P.L. 94-105) broadened the definitions of eligible institutions, required schools to offer reduced-price meals (optional for States up to this point) and, to reduce plate waste, introduced the use of offer-vs-serve in high schools.^{1/}

Major changes in legislative direction came with the passage of the 1980 Omnibus Reconciliation Act (P.L. 96-499) and the Omnibus Reconciliation Act of 1981 (P.L. 97-35) (OBRAs). Under these laws, the emphasis in child feeding programs shifted toward directing more benefits to needy children. Subsidies for meals to children from all income levels continued, but support for paid or reduced-price meals for non-needy children was reduced. Tightened income eligibility guidelines for free and reduced-price meals further enhanced this targeting effort to children from the poorest families. Program administration was streamlined and tightened to reduce the cost of operating child feeding programs at the local level.

In addition, efforts to improve program integrity were initiated with the implementation of income verification procedures. Applications for free and reduced-price meals required social security numbers of all adult household members. The impetus behind these changes was a series of audits performed by USDA's Office of Inspector General (OIG) which found large numbers of students receiving free or reduced-price meals who were not, in fact, eligible. Initial income verification activities began in SY 1981-82 with full national implementation occurring in SY 1983-84.

In the fall of 1986, P.L. 99-661 required that whole milk be offered as a school lunch beverage, and that automatic eligibility for free lunch be allowed to children from families receiving food stamps or, in certain States, AFDC. It also changed the criteria for private school participation by raising the tuition limit from \$1,500 to \$2,000, and allowing this limit to be indexed each July. This legisla-

^{1/}The offer-vs-serve (OVS) option stipulates that schools must offer meals planned in accordance with program meal pattern guidelines, but that students may decline up to two of the five required food items. In 1981, the OVS option was extended to elementary schools, at the discretion of the local school district.

tion was updated in the 1987 Continuing Resolution which entirely eliminated tuition limits, effective July 1, 1987.

The School Breakfast Program

The SBP provides Federal funds for non-profit breakfast programs in eligible schools (i.e., public or private, non-profit) and other child care institutions. Total Federal funding in FY 1988 was \$474 million.

Program Description. The Child Nutrition Act of 1966 (P.L. 89-642) authorized the SBP and targeted the program to "nutritionally needy" children in low-income school districts. Throughout its early history, legislation stressed the need for the program to reach out to children in poor areas, especially rural areas where children might have to travel great distances to school, and to children of working mothers. Today the program is available to all schools who elect to participate. Approximately 41 percent of all elementary and secondary school students have the program available to them and, on an average day, almost 4 million breakfasts are served.^{1/}

Like the NSLP, Federal SBP reimbursement is based on the number of meals actually served to eligible children. To be eligible for cash reimbursement, breakfasts served must comply with meal pattern requirements set forth in program regulations.

Federal per-meal reimbursement rates vary in two ways. First, three categories of reimbursement are established according to family income: "paid" reimbursements are provided for breakfasts served to children from families above 185 percent of poverty; free rates are established for breakfasts served to children from families with incomes at or below 130 percent of poverty; and reduced-price rates are set for breakfasts served to children from families with incomes between 130 and 185 percent of poverty. Second, a "severe-need" rate is established for free and reduced-price breakfasts served in schools with a high proportion of low-income children. SFAs that serve 40 percent or more of their lunches to children with family incomes below 185 percent of poverty and that have unusually high meal preparation costs are eligible to receive a

^{1/}Annual Historical Review of FNS Programs: Fiscal Year 1989. USDA, Food and Nutrition Service, 1990.

severe-need reimbursement.^{1/} SY 1988-89 breakfast reimbursement rate was as follows:

	<u>Regular Reim-</u> <u>bursement Rates</u>	<u>Severe-Need Reim-</u> <u>bursement Rates</u>
Paid	\$.1400	\$.1400
Reduced-price	.4925	.6475
Free	.7925	.9475

Federal law prohibits schools from charging students who qualify for free breakfasts, but allows them to charge up to \$.30 for reduced-price breakfasts; there is no limit placed on what paying students may be charged for breakfast.

Most breakfast reimbursements are for meals served in elementary schools. Not only do more elementary schools participate in the program, but daily student participation is much greater in these schools. The great majority of children who participate in the program receive free breakfasts (i.e., have incomes below 130 percent of poverty). In FY 1989, 87 percent of all breakfasts were served free or at a reduced-price (see Exhibit I.2).

The SBP began operating in 1967 in significantly fewer schools than the NSLP. While both programs continued to grow in the face of declining enrollments, the SBP has grown more quickly than the NSLP. Changes to the program in the 1980 and 1981 Omnibus Reconciliation Acts (OBRA's) reduced participation in each of the three reimbursement-rate categories. However, as is shown in Exhibit I.2 program participation has increased each year since FY 1982.

Legislative History. The SBP was authorized as a two-year pilot project under the Child Nutrition Act of 1966 (P.L. 89-642). It was modeled after the NSLP with one important difference--it was targeted to the "nutritionally needy" in schools in poor and rural areas. Funds were provided to State Educational Agencies to reimburse school districts for a portion of their food costs, but not for labor costs. In cases of "severe need," school districts could be reimbursed up to 80 percent of all their operating costs. The program was reauthorized in

^{1/}Prior to the 1981 Omnibus Reconciliation Act, schools could be designated as "severe-need" if State law required them to operate a breakfast program.

Exhibit 1.2

Trends in School Breakfast Program Participation:
Average Daily Participation¹

Fiscal Year	Income-Eligibility Category			Total ²
	Free	Reduced-Price (Millions of Meals Served)	Paid	
1981	3.05	.25	.51	3.81
1982	2.80	.16	.36	3.32
1983	2.87	.15	.34	3.36
1984	2.91	.15	.37	3.43
1985	2.88	.16	.40	3.44
1986	2.93	.16	.41	3.50
1987	3.01	.17	.43	3.61
1988	3.03	.18	.47	3.68
1989	3.10	.20	.51	3.81

¹Average daily participation (ADP) represents the number of students participating in the program on an average day. The ADP is calculated by dividing the number of reported meals served by the number of operating days. These figures are based on 9-month averages computed for the months of October-May, plus September.

²Counts of free, reduced-price and paid meals may not sum to the total due to rounding.

Source: Annual Historical Review of FNS Programs: Fiscal Year 1989, USDA, Food and Nutrition Service, 1990.

the 1968 Amendments (P.L. 90-302) and extended through FY 1971.

The 1971 Amendments (P.L. 92-32) extended the program for another two years and broadened the eligibility criteria for schools to include those in which there was a special need to improve the nutrition of children of working mothers and children from low-income families. The law provided that eligibility for free and reduced-price meals was to be based on the guidelines used in the NSLP.

In 1972, the program was extended for another three years and non-profit private schools were included in the definition of eligible institutions (P.L. 92-433). In 1973, specific reimbursement rates were established for each meal category.

The 1975 Amendments to the Child Nutrition Act (P.L. 94-105) established the SBP as a permanent program and included a statement of Congressional intent that the program be made available in all schools that requested it. The legislation also urged expansion of the program and required a report from the Secretary of USDA on such plans. Reimbursement rates for free and reduced-price breakfasts in severe-need schools were increased in the 1977 Amendments (P.L. 95-166). The 1978 Amendments continued to encourage program expansion, providing additional funds and food service equipment to schools initiating breakfast programs. States were required to expand eligibility for schools with substantial low-income populations. At a minimum, this included schools serving 40 percent or more of their lunches to children approved for free or reduced-price meals, and in which the regular reimbursement rate was insufficient to meet operating costs.

The 1980 and 1981 OBRA's reversed the expansionary direction of earlier legislation. Since the program's inception, the Secretary of Agriculture had been permitted, but not required, to donate commodities to school breakfast programs. P.L. 96-499 placed a prohibition on this activity, which had been little used in the program. In addition, P.L. 97-35 (1981 OBRA) reduced reimbursement rates for reduced-price and paid breakfasts, authorized annual rather than semi-annual rate adjustments and restricted the definition of "severe-need" by mandating what were previously the minimum guidelines.

Concern for the integrity of the SBP resurfaced in 1986 when Congress increased the cash subsidy for all breakfasts served by three cents, and provided for a bonus commodity subsidy, when available, of three cents per meal (P.L. 99-591). This legislation also mandated that a nutritional analysis be done of the SBP, and that meal pattern requirements be changed to improve the nutritional value of the breakfasts.^{1/} Finally, it permitted for the first time, the use of offer-versus-serve in the SBP. The Hunger Prevention Act of 1988 (P.L. 100-435) subsequently added another three cents to the cash subsidy for school breakfasts.

As of July 1989, the final rules regarding the SBP meal pattern were enacted. The meal pattern now requires one more food item than had been required prior to 1989. SBP meals must now include four (rather than three) components. At the discretion of the local agency, schools may permit students to refuse one food item.

The Food Donation Program

Through the FDP, FNS provides food to meet the nutritional needs of children and needy adults. FNS distributed commodities costing approximately \$1.9 billion in FY 1988 with the largest shares going to the NSLP and low-income households participating in the Temporary Emergency Food Assistance Program (42 and 33 percent, respectively).

Program Description. The Food Donation Program (also referred to as the Commodity Donation Program) provides two types of assistance to SFAs participating in the NSLP: (1) a donated food entitlement of \$0.1225 in Fiscal Year 1988 for each reimbursable meal served in the NSLP, and (2) bonus commodities which, subject to availability, can be requested in amounts up to what can be used without waste. In FY 1988, schools participating in the NSLP received donated commodities valued at \$814.8 million; approximately \$466.3 million in entitlement commodities and \$348.6 million in bonus commodities.

Virtually all of the commodities currently purchased and distributed by the Federal government are acquired under two legal authorizations--Section 416 of the Agricultural Act of 1946 and the Section 32

^{1/}The 1980 National Evaluation of School Nutrition Programs (NESNP-I) revealed that while SBP breakfasts were superior to other types of breakfasts in calcium and magnesium content, they were inferior in vitamin A, vitamin B₆ and iron.

amendments to the Agricultural Adjustment Act of 1933.

Under Section 416, agricultural prices are supported by purchasing surplus basic commodities and storing them for return to the market when conditions are more favorable. Basic commodities are products defined in the Agricultural Act of 1949 whose prices are supported by USDA's commodity programs. In recent years, dairy products have accounted for the bulk of Section 416 commodity donations. Soybeans, rice, peanuts, wheat and other grains account for the remaining donations of surplus basic commodities.

Section 32 purchases are financed by a continuing appropriation of 30 percent of the annual duties imposed on U.S. imports. Purchases under Section 32 are intended to remove temporary surpluses of perishable non-basic agricultural commodities and to help stabilize farm prices. However, most Section 32 funds are expended as direct cash subsidies to schools. In FY 1985, \$2.3 billion (about 80 percent) of the \$2.9 billion Section 32 appropriation was provided to eligible school districts as reimbursement for lunches served under Sections 4 and 11 of the National School Lunch Act. The remaining 20 percent, amounting to \$600 million worth of commodities, were distributed to schools, needy persons, and institutions under Section 32. Examples of the types of commodities most frequently purchased by USDA with Section 32 funds include frozen cut-up chicken, frozen ground beef, turkey roasts, and canned and frozen fruits and vegetables such as applesauce and french fried potatoes.

Three agencies within USDA are principally involved in the planning, purchase, allocation and distribution of commodities to eligible outlets: FNS, the Agricultural Stabilization and Conservation Service (ASCS), and the Agricultural Marketing Service (AMS). FNS has overall authority to administer the Commodity Donation Program and authorizes ASCS and AMS to obligate funds to cover anticipated purchases. ASCS contracts for purchases under Section 416, and makes dairy products stored by the Commodity Credit Corporation (CCC) available for distribution. AMS contracts under Section 32 to purchase meats, poultry, seafood, fruits and vegetables.

When purchases are made by either ASCS or AMS, FNS is informed of the date of purchase, the total amount and shipping periods contracted for and the

total funds expended. FNS then allocates commodities to States, taking into consideration each State's entitlement and their proportional "fair share" of the total amount available based on each State's meals served as a proportion of the national total. Through its Regional Offices, FNS notifies State Distributing Agencies (SDAs) about allocated amounts of commodities purchased and the amount per pound to be charged against entitlement. SDAs in turn submit food requisitions specifying quantities, destination points, and shipping dates to the Regional Offices for approval. The SDA is responsible for arranging storage and transportation to recipient agencies, monitoring the distribution to and use of the food by eligible recipients, and in many cases, processing commodities into various other products.

Legislative History. As noted above, Federal purchase and distribution of agricultural commodities are authorized under three major pieces of legislation. The first, Section 32 of the Agricultural Act of 1935, was designed to help stabilize farm prices by removing surplus perishable non-basic foods from the market. It also allowed for the domestic distribution of such commodities to needy persons. Surplus is defined as either physical (i.e., supplies exceed requirements) or economic, (i.e., prices for the commodity fall below desired levels). Section 32 foods include high protein items such as meats and poultry, which account for one-third to two-thirds of expenditures, fruits and vegetables, eggs, and dry beans and peas. Most (91 percent) of the commodities purchased with Section 32 funds are donated to schools through the NSLP.

Section 416 of the 1949 Agricultural Act authorized the Commodity Credit Corporation to acquire price-supported, basic non-perishable foods, which are donated through FNS to the NSLP and other child-feeding programs, as well as to special categories of institutions and needy individuals. Foods that may be donated under Section 416 include dairy products such as cheese, butter and non-fat dry milk, and other basic foods such as fats and oils, rice, peanuts, wheat and other grains. Schools receive the largest percentage of Section 416 commodities.

Finally, Section 6 of the National School Lunch Act of 1946 further authorized the purchase of agricultural commodities specifically for donation to schools and service institutions. Because price-

support and surplus restrictions do not exist for commodities purchased under Section 6, State preferences play a larger role in determining the foods that will be purchased. However, Section 6(e) mandated special emphasis on high protein foods; meat and poultry constitute almost 90 percent of Section 6 donated foods.

Other legislation authorizing the purchase and distribution of commodities by USDA includes: Section 311 of the Older Americans Act, which required USDA to donate a minimum level in commodities or cash in lieu of commodities to nutrition programs for the elderly; Section 4(a) of the Agricultural and Consumer Protection Act; and Section 14 of the National School Lunch Act which gives USDA special purchase authority to buy, with funds from Section 32 and Section 416, commodities at current market prices even though they do not meet surplus or price support conditions.

The Commodity Distribution Reform Act of 1987 (P.L. 100-237) enacted numerous procedural changes designed to improve program operations and service to SFAs. Included among them were requirements to: establish an advisory council; monitor the condition of commodities in USDA storage; provide 60-day advance information on the types and quantities of commodities to be made available; and establish a 90-day delivery cycle to States. The legislation also required that the General Accounting Office (GAO) review the commodity distribution program within 18 months.

State Administration and Expense Funds

State Administrative Expenses (SAE) are funds provided to States to cover the administrative expenses of State agencies responsible for programs under the Child Nutrition Act of 1966 and the National School Lunch Act. Specific administrative activities covered by these funds include: monitoring, reporting, and providing technical assistance. In FY 1988 the Federal cost for SAE was approximately \$55 million.

Each year, \$4 million of SAE funds are allocated to States to fulfill the requirements of the Assessment, Improvement and Monitoring System (AIMS). AIMS was established in 1980 to address reported deficiencies related to financial management at the local level and school programs which were not meeting regulatory requirements. Under AIMS, State agencies must review all participating SFAs every four years. States perform AIMS reviews or audits

to monitor compliance with four AIMS performance standards.

- Performance Standard 1: Certification - Each child's application for free and reduced-price meals must be correctly approved or denied.
- Performance Standard 2: Claims - The number of free and reduced-price meals claimed for reimbursement by each school for any review period must, in each case, be equal to the number of meals served to children who are correctly approved for free and reduced-price meals, respectively, during that period.^{1/}
- Performance Standard 3: Counting - The system used for counting and recording meal totals, by type, claimed for reimbursement at both the SFA and school levels must yield correct claims for reimbursement.
- Performance Standard 4: Components - Meals claimed for reimbursement must contain food items as required by program regulations.

"Second review thresholds" are established for each performance standard. If the threshold is exceeded on any one performance standard, a second AIMS review is triggered. When a program deficiency is detected, the SFA must submit a corrective action plan to the State agency explaining how and when the problem will be corrected.

Despite considerable AIMS activities since 1980, Federal audits and reviews have indicated that problems persist with meal counting and claiming procedures at both the school and SFA levels. According to an FNS review of 175 Public SFAs in 1989:

- One in four schools had an inaccurate meal counting system--one that led to errors in the claim submitted for Federal reimbursement.

^{1/}The scope of review for Performance Standards 2 and 3 were revised in March, 1989 as part of a major regulatory change designed to improve AIMS reviews and standardize school and SFA meal counting and claiming requirements.

- The most significant problems in counting and claiming procedures occurred in large school districts.
- Inaccurate or missing information on applications was also a large source of error. Seventy-eight percent of SFAs had errors that resulted in FNS establishing a claim. Frequently the dollar value was quite small, however, and was due to correctable applications error.

In response to these findings, FNS enacted a number of regulatory changes designed to improve accountability in the NSLP. The final rule published on March 28, 1989, (effective date July 1, 1989), clarified and standardized meal counting and claiming requirements for schools and SFAs, and expanded the scope of SFA and State agency monitoring activities associated with these procedures.

Moreover, FNS requested funding in the FY 1989 budget to support Federal review of meal counting and claiming procedures. The FY 1989 Agriculture Appropriations Act provided FNS with \$5.2 million to implement a pilot system for independent verification of school meal claims, and to train State and local school food service workers to implement more accurate meal counting and claiming systems.

II. OVERVIEW OF THE CHILD NUTRITION PROGRAM OPERATIONS STUDY

This chapter provides a detailed description of the Child Nutrition Program Operations Study. First, the overall design of the study and its component surveys are described. Next, research issues for Year One of the study are summarized. Sample selection and data collection strategies are then discussed. The chapter concludes with a discussion of the approach utilized in analyzing and reporting data in this report.

STUDY DESIGN

The Child Nutrition Program Operations Study is designed to collect data from States and participating SFAs on issues that are currently, or are likely to be, the focus of FNS' policy making process. Data collection for the study spans three years (SY 1988-89, 1989-90, and 1990-91), with specific information needs for each annual survey defined by FNS staff. The surveys provide a "snapshot" of administrative structure and procedures in a particular year and, for selected research items that are included in each annual survey, an assessment of year-to-year changes in program operations.

Study Components

Three distinct data collection components comprise the Child Nutrition Program Operations Study: (1) State Agency Survey, (2) SFA Manager Surveys, and (3) On-Site Meal Observations. Each of these components is described below. Exhibit II.1 summarizes the data collection schedule.

State Agency Survey. The research issues identified for Year One of the study required that data be collected from every State regarding a variety of issues including commodity processing and distribution, monitoring of commodity inventories, SFA utilization of Food Service Management Companies (FSMCs) and vended meals, and technical assistance and training. To collect this information, Directors of Child Nutrition Programs and State Distributing Agencies in all 50 States were contacted and asked to complete a brief telephone interview. All of these data were collected during

Exhibit II.1

Child Nutrition Program Operations Study:
Study Components and Data Collection Schedule

Study Component	Spring 1989 (Year One)	Spring 1990 (Year Two)	Spring 1991 (Year Three)
State Agency Survey	X		
SFA Manager Survey ¹			
- Telephone Survey	X	X	X
- Mail Survey	X		
On-Site Meal Observations		X	

¹During Year One of the study, both telephone and mail survey instruments were utilized to collect data from SFA Managers. SFA Manager Surveys for Years Two and Three of the study include only telephone surveys.

Year One of the study; no State agency questions are included in Years Two or Three of the study.

SFA Manager Surveys. The SFA Manager Surveys represent the largest component of the Child Nutrition Program Operations Study. Three annual surveys of a stratified sample of 1,740 SFAs are being conducted, in the spring of each year, to gather data on a wide variety of program operations issues. (Specific research issues and types of data included in these surveys are discussed in the following section.) During Year One of the study, both telephone and mail instruments were utilized in surveying SFA managers because of the amount of historical program data that was requested (e.g., meal prices for previous five school years; meal counts, enrollment, etc. for two school years). Data collection from SFA Managers in Years Two and Three of the study is limited to telephone surveys.

On-Site Meal Observations. The major objective of the on-site meal observations is to provide FNS with timely information on the nutrient content of meals offered to, selected by, and consumed by students participating in the NSLP and SBP. A representative sample of participating students was observed in 20 purposively-selected SFAs during Year Two of the study (SY 1989-90).

A total of 60 schools, three schools within each of the 20 SFAs (two elementary schools and one middle/secondary school), were included in the meal observations. Field staff observed meal service in these 60 schools for five consecutive days to collect detailed data on meals offered (meals that were made available to children on the day of observation), meals selected (actual food selections were observed for approximately 60 children at each meal), and meals consumed (at each meal, plate waste was observed for 12 of the 60 selected children).

Year One Research Issues

Research issues for Year One of the study were developed jointly by FNS, an external Advisory Panel and a group of SFA managers who met in a focus group session conducted by AAI. Research priorities and associated survey instruments were also reviewed and approved by members of the Education Information Advisory Committee (EIAC), Food and Nutrition Subcommittee of the Council of Chief State School Officers. 1/

1/Advisory panel members, focus group participants, and EIAC members are identified in Appendix A.

Each research issue was categorized as being either cross-sectional or longitudinal in nature. Data to address cross-sectional issues were collected in the Year One SFA Manager Survey, whereas longitudinal data are being collected during each year of the study, in order to assess year-to-year changes in program operations. The annual SFA Manager Surveys are, therefore, constructed in a modular fashion, with a common set of questions to be asked in each year of the study (the longitudinal research issues) and separate modules added in individual years to address research priorities (the cross-sectional issues). Research issues for Year One of the Child Nutrition Program Operations Study are summarized in Exhibit II.2.

SAMPLE SELECTION

Year One of the project involved the selection of samples for two of the three study components described above: the State Agency Survey and the SFA Manager Survey. The third component of the project (the On-Site Meal Observations) was not implemented until Year Two of the project. Sample selection for the On-Site study is described in the Year Two report.

State Agency Survey Sample

In order to collect data on State-level program operations issues, a telephone survey was conducted with all State Child Nutrition Program Directors and State Distributing Agency Directors. A list of these individuals in all 50 States was obtained from FNS.

SFA Manager Survey Sample

The study also involved the collection of data from a national probability sample of SFAs. To select such a sample it was necessary to have a national listing of SFAs that also included some basic descriptive information (e.g., number of approved applicants, enrollment, whether they participated in only the NSLP or in both the NSLP and SBP, whether they were a private or public SFA). Because such a listing did not exist, AAI staff assembled one by requesting necessary information from cognizant State agencies.

Once the list of SFAs was constructed, a stratified probability sample was selected consisting of 1,740 SFAs. Data collected from these SFAs will produce national estimates of SFA characteristics, for the

Exhibit 11.2

Year One Research Issues

Major Research Issues in Each Survey

STATE AGENCY SURVEY

Food Donation Program

Commodity Processing

- State involvement
- Commodities processed
- End-products produced
- Do SFAs receive products under rebate, discount or fee-for-service systems?
- Does SDA distribute processed products?
- Methods used to select and monitor processors
- Extent of local-level processing; change since SY 1985-86

Distribution

- Changes since SY 1985-86

Monitoring Commodity Inventories

- Are SFA inventories monitored?
- How often?
- Physical inventories vs. paper inventories
- Is inventory data used to determine commodity allocations?

Vended Meals

- Number of SFAs involved
- Who produces vended meals?
- State requirements/regulations

Food Service Management Companies

- Number of SFAs involved
- State regulations re: contracting
- Determination of fees
- Contract award and monitoring

Training and Technical Assistance

- Types of T&TA provided (topics)
- Done routinely or on request?
- Form/methods utilized (written materials, courses, workshops, etc.)
- Recipients of training

YEAR ONE SFA MANAGER SURVEY -- LONGITUDINAL RESEARCH ISSUES¹

Participation

- Overall, free, reduced and paid NSLP participation rates (separately for elementary and middle/secondary schools) in SY 1987-88
- Overall, free, reduced and paid SBP participation rates (separately for elementary and middle/secondary schools) in SY 1987-88

Meal Prices

- Average prices charged for full, reduced and adult lunches in SY 1988-89
- Average prices charged for full, reduced and adult breakfasts in SY 1988-89
- Change in meal prices over time: SY 1987-88 to SY 1988-89 and SY 1983-84 through SY 1988-89

Annual Revenues (SY 1987-88)

Annual Expenditures (SY 1987-88)

¹Longitudinal research issues were included in the Year One SFA Manager Mail Survey and are also included in the Year Two and Year Three SFA Manager Telephone Surveys.

Exhibit 11.2
(continued)

Major Research Issues in Each Survey

YEAR ONE SFA MANAGER SURVEY -- CROSS-SECTIONAL RESEARCH ISSUES¹

Food Donation Program

- SFA participation
- Communications about preferences re: commodity forms
- Problems with off-condition commodities

- Number of complaints filed regarding commodities
- Local processing contracts:
 - involvement
 - commodities processed
 - end products produced
 - methods used to select and monitor processors
- Use of and satisfaction with processed products produced under State and National agreements
- Use of rebate and discount systems and accountability, recordkeeping practices

School Breakfast Program

- SFA participation
- Factors influencing decisions about participation
- Proportion of SFAs offering program in all schools
- Reasons some schools in participating SFAs do not offer SBP
- Availability of alternative (non-USDA) breakfasts
- Proportion of participating SFAs with schools eligible for severe need
- Presence of potentially eligible schools that do not receive severe-need reimbursement
- Characteristics of typical SBP meals

Meal Counting Systems

- Meal counting systems used
- Do schools check meals for required meal components?
- What is done if a child does not select the required number of items?
- Within school monitoring check meal count accuracy
- SFA-level monitoring to check meal count accuracy
- Estimated accuracy of school meal counts

Food Service Management Companies

- SFA involvement
- Division of responsibility between FSMC and SFA
- Methods used to determine fees
- Person(s) responsible for contract award
- Methods used to monitor performance
- Use of independent (SFA) meal counts to check accuracy of counts claimed by FSMCs

Training and Technical Assistance

- Types of training received (topics)
- Providers of training
- Recipients of training
- Perceived training needs
- Perceived ability of State Agency to meet training needs

¹Year One cross-sectional research issues were included only in the Year One SFA Manager Telephone Survey.

Exhibit 11.2
(continued)

Major Research Issues in Each Survey

YEAR ONE SFA MANAGER SURVEY -- CROSS-SECTIONAL RESEARCH ISSUES

Food Service Program Characteristics

Food Purchasing

- Use of competitive bid
- Use of purchasing cooperatives
- Foods purchased through cooperatives
- Origin of food orders

Kitchen Facilities and Meal Service Systems

- Types of facilities utilized
- Meal service systems used
- Use of kitchen facilities for other programs

Alternative Food Services

- Availability of non-USDA meal alternatives (vending, ala carte, etc.)

Offer vs. Serve and Choice in the NSLP

- Use of Offer vs. Serve option in elementary schools (SY 1988-89)
- Availability of choice in the NSLP

Nutritional Analysis of Menus

- Proportion of SFAs conducting formal nutritional analysis
- Use of computers
- Interest in computer programs for nutritional analysis

overall SFA population, as well as for six specific subgroups of SFAs:

- 1) Public SFAs
- 2) Private SFAs
- 3) SFAs that participate in both the NSLP and SBP
- 4) SFAs that participate only in the NSLP
- 5) High-poverty SFAs 1/
- 6) Low-poverty SFAs

A detailed description of the stratification and sampling plans used in selecting SFAs is included in Appendix B.

DATA COLLECTION

Data collection for Year One of the Child Nutrition Program Operations Study consisted of two separate survey efforts: the State Agency Survey and the SFA Manager Survey.

State Agency Survey

A brief telephone interview was conducted with State Directors of Child Nutrition Programs and Directors of State Distributing Agencies to collect information on characteristics of State operations (see Appendix C for a copy of the survey instrument).

SFA Manager Survey

Two instruments were used in collecting data from SFA Managers. A telephone survey was used to collect data on a variety of topics related to program operations (see Appendix D for a copy of the survey instrument), and a mail survey was used to collect historical data on school lunch and breakfast participation, meal prices and meal cost data (see Appendix E for a copy of the survey instrument).

A mail package was prepared for each of the 1,740 SFAs selected for recruitment into the three-year

1/High-poverty SFAs are defined as those that served 60 percent or more of their lunches free or at a reduced price during SY 1987-88. Those with lower percentages of free and reduced-price lunches are considered low-poverty SFAs.

survey effort. The package included a personalized letter that explained the study and solicited SFA participation, a mail survey and a postage-paid envelope. Surveys were mailed out over a one-week period in early spring 1989, about three weeks before telephone interviews were scheduled to begin.

Telephone interviews began in spring 1989 and continued for two months. Two types of staff were trained to conduct the interviews:

- experienced interviewing staff in the AAI telephone center were trained to conduct the bulk of the interviews with SFA managers; and
- members of the permanent study staff were trained to conduct interviews with directors of the 20 largest SFAs, whose participation was especially crucial and who were most likely to have questions about the study.

The data collection strategy was modified in one instance where 19 SFAs used the same food service management company. In this case, much of the data for all 19 SFAs was collected through in-person interviews with the staff of the food service management company. Questions were provided in advance of the visit to facilitate the gathering of data from records.

Response Rates

State Agency Survey. Directors of Child Nutrition Programs and State Distributing Agencies in all 50 States were contacted. In some States, two separate individuals were interviewed when the two programs were not housed in the same agency. Surveys were successfully completed for 44 States, for a response rate of 88 percent. Six States refused to participate in the survey. A State survey was completed for all but 3 of the 32 States represented in the SFA manager survey sample.

SFA Manager Telephone Survey. The telephone survey of SFA Managers yielded 1,407 completed interviews for an 81 percent response rate (1,407 completes divided by 1,740 attempts). While the telephone survey was lengthy, lasting between 45 minutes and 1 hour, SFA managers were cooperative and willing to respond. The results of a nonresponse analysis, presented in Appendix F, indicate that there is no serious bias in the telephone survey data due to differences between responding and nonresponding SFAs.

SFA Manager Mail Survey. Initial response to the mail survey portion of the Year One data collection was poor, and improved only after a very lengthy process of telephone reminders, re-mailings, frequent subsequent reminders and repeated efforts to collect the data by telephone. SFA managers complained that the mail survey involved a great deal of work and took several hours to complete. The retrieval of historical data was difficult and time-consuming, since it was often in long-term storage, rather than close at hand.

A total of 909 (52 percent) mail surveys were received as a result of the efforts described above. Consequently, a subsequent data collection strategy was implemented to obtain key pieces of information for the 831 nonresponding SFAs. This involved contacting State Child Nutrition Program Directors to obtain SFA-specific data on key variables such as free, reduced-price, and paid meal counts, enrollment, meal prices, and numbers of children approved for free and reduced-price meals. This effort met with varying degrees of success, depending on the State. Some States were able to quickly supply the needed data while others were not willing or able to do so.

This effort yielded at least some data on an additional 397 SFAs, for a total of 1,306 SFAs. However, only 208 of these SFAs had data that were sufficiently complete to support subsequent analysis, thereby reducing the number of SFAs with a completed mail survey to 1,113 (64 percent). The results of a nonresponse analysis presented in Appendix G indicate that there is a response bias problem with the mail survey. Specifically, small SFAs had a lower response rate than larger SFAs, and high-poverty SFAs had a lower response rate than low-poverty SFAs. The sample weighting adjustments described in Appendix H work to counteract and compensate for this bias, by adjusting the sample weights so that estimates of the number of lunches served nationally match FNS' known universe counts.

One focus of the SFA Manager Mail Survey was to obtain data on meal counts, enrollment, etc. for the entire SFA, and separately for elementary and second-

dary schools within the SFA.^{1/} School districts typically do not maintain their records in this format, however, and the effort of reconstructing these records is substantial. Therefore, only about 60 percent of the 1,113 SFAs considered to have completed the mail survey were able to provide data separately for elementary and secondary schools (the exact percentage varies from variable to variable).

DATA ANALYSIS AND REPORTING

The following section briefly describes the methodology used to weight the survey sample data to the national level and the general approach used in analyzing the Year One data.

Weighting Methodology

The SFA telephone and mail survey samples were both weighted so that inferences could be drawn regarding the universe of all participating SFAs in the U.S. For each sample SFA, a weight was calculated that consisted of three parts: a basic sampling weight equal to the reciprocal of its initial selection probability, an adjustment to compensate for survey nonresponse, and post-stratification adjustments to coincide with known population totals. Details of the weighting methodology are presented in Appendix H.^{2/} Exhibit II.3 summarizes the weighted and unweighted sample sizes for the Year One telephone and mail surveys.

General Analytic Approach

Analysis of the data collected from the various surveys consists of straightforward crosstabulations of responses to the survey questions with accompanying descriptive statistics.^{3/} When appropriate, ver-

^{1/}For this study, an elementary school was defined as a school that contained at least a kindergarten, first grade, second grade, or third grade. All other grade configurations were considered to be middle/secondary schools.

^{2/}The typical standard error for data in this survey is 2.3 times larger than would have resulted from a simple random sample of SFAs. The increase in standard errors is caused by the use of a cluster sample design, and from the application of unequal weights to compensate for the oversampling of private SFAs and high-poverty SFAs.

^{3/}Methods used to derive more complex variables, such as participation rates and meal costs are described in the appropriate chapters of Part 2 of this report.

Exhibit 11.3

Completed Telephone and Mail Surveys for Year One:
Unweighted and Weighted Sample Sizes
(SY 1988-89)

Type of Survey	Unweighted N	Weighted N ³
SFA Manager Telephone Survey ¹	1,401	14,259
SFA Manager Mail Survey ²	1,113	14,375

¹Telephone survey data include program operations issues relating to the Food Donation Program (Chapter V), the School Breakfast Program (Chapter VI), Meal Counting Systems (Chapter VII), Food Service Management Companies (Chapter VIII), Food Service Program Characteristics (Chapter IX) and Training and Technical Assistance (Chapter X).

²Mail survey data include student participation rates (Chapter III) and meal prices and costs (Chapter IV).

³The total weighted Ns for the Year One telephone and mail survey samples vary slightly because the final weighting adjustment for the telephone survey sample was based on a student-level variable (number of approved applicants) rather than on the number of SFAs. See Appendix H for details.

Data Source: Year One SFA Manager Mail and Telephone Surveys.

batim quotations (without attribution) are used to illustrate trends and patterns in the data.

T-tests have been performed for selected variables to assess the statistical significance of differences between subgroups of SFAs. Rather than assuming that the study sample is a simple random sample of SFAs, the t-statistics have been adjusted to reflect the design effects associated with the use of a complex, stratified cluster sample.

Tabular Presentation

In presenting the data, simple tabular presentations are employed. Overall national estimates are included as well as subgroup estimates for each of the specific domains of the population considered in selecting the SFA sample:

- Public SFAs
- Private SFAs
- SFAs that participate in both the NSLP and SBP
- SFAs that participate in the NSLP only
- High-poverty SFAs
- Low-poverty SFAs

In addition, to allow examination of variation associated with the size of an SFA, a categorical variable has been created to define small, medium and large SFAs, based on the following ranges of total student enrollment:

- Small: 1 to 999 students
- Medium: 1,000 to 4,999 students
- Large: 5,000 or more students

For the most part, summary exhibits for each research issue include descriptive statistics for each of these SFA subgroups. For certain issues, data are presented only for those subgroups where interesting differences are noted or, when sample sizes are small, for the total sample.

Key exhibits present results of t-tests which compare subgroups of SFAs, i.e., public vs. private, NSLP-only vs. NSLP and SBP, high-poverty vs. low-poverty, and large vs. small and medium SFAs. Because of the large number of t-tests calculated in the report, discussions are limited to variables

that exhibit a difference between sub-groups of SFAs that is statistically significant at the .01 rather than at the more liberal .05 level. This approach compensates for the possibility of finding large numbers of comparisons significant by chance alone.

The reader will notice that some differences appear to be "large" but are not statistically significant. This can occur because (1) there is a large amount of variation in the measure, (2) there is a relatively small sample size (e.g., this happens for private SFAs), and (3) as described above, the study is using a relatively conservative significance level.

The weighted sample sizes included in any given exhibit may vary across subgroups for two reasons:

- Sample sizes for completed telephone and mail surveys are different, as described earlier, so that the total number of cases available for inclusion in a given analysis will vary depending on the source of the data.
- The data required to compute the SFA size variable and to differentiate high and low poverty-level SFAs is available only for SFAs that completed the mail survey. Thus, in summary tables, sample sizes within these domains are limited, even for variables obtained in the telephone survey.

Exhibit II.4 identifies the maximum available sample sizes for the Year One Telephone and Mail Surveys.

Two sets of exhibits are presented in this report. Each chapter contains a few exhibits which present key statistics supporting the major findings of the chapter. These exhibits are numbered consecutively from 1 to n within each chapter (e.g., Exhibit V.1 is the first exhibit in Chapter V). In addition, each chapter references "extended tables" which contain additional statistics related to the discussion at hand. These extended exhibits are contained in Part 3 of the report so that they do not clutter the main presentation. They, too, are numbered consecutively within each chapter from 1 to n (e.g., Exhibit ET-V.1 is the first extended table for Chapter V).

Exhibit 11.4

Unweighted and Weighted Sample Sizes for Year One
SFA Manager Telephone and Mail Surveys
(SY 1988-89)

Survey Domain	Unweighted N	Weighted N	Percent (of weighted N)
Telephone Survey			
Total Sample	1,401	14,259	100%
Type of SFA			
Public	1,196	11,275	79.1
Private	205	2,984	20.9
Participation in SBP			
NSLP and SBP	577	3,849	27.0
NSLP only	824	10,410	73.0
Mail Survey			
Total Sample	1,113	14,375	100%
Type of SFA			
Public	977	11,284	78.5
Private	136	3,091	21.5
Participation in SBP			
NSLP and SBP	427	3,867	26.9
NSLP only	686	10,508	73.1
SFA Size			
Small (1 - 999)	294	7,067	49.2
Medium (1000 - 4999)	475	5,464	38.0
Large (5000+)	344	1,844	12.8
SFA Poverty Level			
High (60% or more F&R)	258	2,267	15.8
Low (0-59% F&R)	855	12,108	84.2

Data Source: Year One SFA Manager Mail and Telephone Surveys.

PART 2: MAJOR FINDINGS

- Chapter III: Student Participation in the National School Lunch Program and School Breakfast Program
- Chapter IV: Meal Prices and Reported Meal Costs
- Chapter V: The Food Donation Program
- Chapter VI: The School Breakfast Program
- Chapter VII: Meal Counting Systems
- Chapter VIII: Food Service Management Companies
- Chapter IX: Food Service Program Characteristics
- Chapter X: Training and Technical Assistance

III. STUDENT PARTICIPATION IN THE NSLP AND SBP

This chapter presents estimates of participation in the NSLP and SBP for SY 1987-88. Participation is examined at two levels: (1) total annual participation (number of meals served annually), and (2) student participation rates (the proportion of potential participants, overall and for each meal reimbursement category, that actually consume a USDA meal on an average school day).

BACKGROUND

FNS has an ongoing interest in measuring and understanding participation in the school-based Child Nutrition Programs because Federal subsidies are tied to the number of meals actually served. Understanding the factors that affect an individual student's decision to choose to eat a school meal, and how these decisions respond to changes in subsidies and meal prices, is of critical importance to the Agency's budgetary and regulatory responsibilities.

FNS has devoted substantial resources to collecting data on student participation in the Child Nutrition Programs as part of two National Evaluations of School Nutrition Programs.^{1/} In addition, sophisticated prediction models have been developed that allow FNS to estimate the effect of changes in Federal subsidies and meal prices on student participation. The primary difficulty with these models, however, has been their dependence on individual student data. Because FNS does not regularly collect such information, the Agency cannot readily update or refine these models over time without continually mounting very expensive data collection efforts.

^{1/}Wellisch, J.B., S.D. Hanes, L.A. Jordan, K.M. Maurer, and J.A. Vermeersch, The National Evaluation of School Nutrition Programs: Final Report. Santa Monica, CA: Systems Development Corporation, 1983 (referred to as NESNP-I).

Characteristics of National School Lunch and School Breakfast Program Participants, USDA, Food and Nutrition Service, 1988 (referred to as NESNP-II).

FNS is, therefore, interested in developing a participation model based on aggregate information that can be obtained on a regular basis from SFAs. While FNS routinely collects data on the number of meals served, as part of the normal reporting requirements for SFAs, these data are aggregated at the State, rather than SFA, level. This survey offers disaggregated, i.e., SFA-level data, that will allow FNS to examine participation patterns for subgroups of SFAs. These data, if properly combined with the student-level models, can be used to produce accurate predictions of responses to changes in the nature of the programs.

KEY RESEARCH ISSUES

This study provides for the collection of annual data on the number of NSLP and SBP meals served by eligibility category, and the number of students potentially able to participate in the NSLP and SBP. These data are used in this chapter to address the following research questions:

- What is the level of participation in the NSLP and SBP?
- Does the pattern of participation (e.g., the percentage distribution of free, reduced, and paid meals served) and the rate of student participation vary by type of SFA?
- How do student participation rates vary for elementary and secondary schools?

Results related to the total number of NSLP and SBP meals served are presented first, followed by data on the average daily rate of student participation.

DATA AND VARIABLES

Data on NSLP and SBP participation were collected as part of the Year One SFA Manager Mail Survey, which requested annual counts of breakfasts and lunches served in SY 1987-88, by meal reimbursement category. The majority of SFA managers, and State Agencies where necessary, were able to provide this information. In a few instances, reported meal counts were for one month (typically October), rather than complete annual counts. These monthly counts were adjusted to reflect estimated annual totals by multiplying by a factor of 9. Responses from individual SFAs were then weighted and aggre-

gated to produce national estimates of the number of meals served in the NSLP and SBP, the percentage of meals served in several different subgroups of SFAs, and the percentage distribution of free, reduced-price and paid meals.

Where possible, the weighted survey data were compared to results from prior research studies and FNS administrative data. Because the survey weights were ratio-adjusted to known population totals, based on FNS' administrative data, the resulting estimates for total NSLP and SBP meals compare closely to estimates derived from this source. (See Appendix H for details on the weighting methodology used in this study).

Data on total meal counts were combined with information on enrollment, number of students approved for free and reduced-price meals, average daily attendance rates and annual number of operating days to compute student participation rates. For the most part, these data were readily available from SFA records. A small percentage of SFA Managers were unable to provide an attendance rate. In these cases, attendance rates were imputed based on attendance rates reported in SFAs of similar size, poverty level, source of local control (e.g., public vs. private), and participation status (NSLP plus SBP vs. NSLP only.) Where data were collected from State agencies, a State-level attendance rate, rather than an individual SFA rate was used.

Student participation rates are defined as the ratio of the number of meals served during the year (SY 1987-88) to the number of meals that could have been provided to eligible students. Specifically, the following algorithms were used in computing student-level participation rates:

$$PTOTAL = NMEALS / (TPOTEN * ATRATE * OPDAYS)$$

$$PFREE = NFREE / (APPFREE * ATRATE * OPDAYS)$$

$$PRED = NRED / (APPRED * ATRATE * OPDAYS)$$

$$PPAID = NPAID / (APPPAID * ATRATE * OPDAYS)$$

where,

$$PTOTAL = \text{overall participation rate;}$$

$$PFREE = \text{participation rate for students approved for free meals;}$$

PRED = participation rate for students approved for reduced-price meals;
 PPAID = participation rate for students who are approved for neither free nor reduced-price meals;
 NMEALS = total number of reimbursable meals claimed during SY 1987-88;
 NFREE = number of free meals claimed during SY 1987-88;
 NRED = number of reduced-price meals claimed during SY 1987-88;
 NPAID = number of paid meals claimed during SY 1987-88;
 TPOTEN = total number of potential participants;
 APPFREE = number of students approved for free meals as of October 31, 1987;
 APPRED = number of students approved for reduced-price meals as of October 31, 1987;
 APPPAID = number of students approved for neither free nor reduced-price meals as of October 31, 1987;
 ATRATE = average daily attendance rate for SY 1987-88; and
 OPDAYS = number of cafeteria operating days in SY 1987-88.

When completing the Year One mail survey, SFA Managers were asked to record the total number of students who had the potential to participate in the NSLP, in addition to actual enrollment figures. Potential participants excluded students for whom the NSLP was not available (e.g., those attending schools without a lunch program, half-day kindergarten programs, etc.) and thereby provides a more accurate base from which to determine participation rates. When SFAs were unable to provide data on potential participants, data on total enrollment were used in these calculations.

The number of potential participants in each SFA (or the enrollment) was then multiplied by the SFA's average daily attendance rate. This adjustment takes into account the fact that only those children actually attending school can purchase a meal. The same attendance rate was used in adjusting all participation rates (i.e., rates for free, reduced-price and paid meals). While it is theoretically possible that attendance rates differ for students from different eligibility categories, there is no literature that addresses this issue. Moreover, because the data collected in this study were SFA-level rather than student-level, it was not possible to determine separate attendance rates for different meal categories. An examination of attendance rates across SFA subgroups revealed no significant differences. The fact that attendance rates in high-poverty SFAs (where high proportions of the meals served are served to students eligible for free and reduced-price meals) were no different than other SFAs suggests that children approved for free and reduced-price meals attend school at about the same rate as other students.

TOTAL ANNUAL PARTICIPATION

Estimated NSLP Participation

Data from the SFA Manager Survey indicate that an estimated 4.0 billion lunches were served to school children in SY 1987-88 (Exhibit III.1). Almost all lunches (97.9 percent) were served in public schools. Further, most lunches were served in SFAs that also offer the SBP (59.2 percent), large SFAs (61.4 percent) and low-poverty SFAs (66.9 percent).

Exhibit III.2 shows the proportion of school lunches served nationally to children who are eligible for free and reduced-price meals, as well as students who pay full-price for their meals. Approximately 39.7 percent of all lunches were served free-of-charge to children from low-income families; 6.6 percent were served at a reduced price and 53.7 percent were served to children who paid full-price for their lunch (Exhibit III.2).

The distribution of NSLP meals by eligibility category varies by type of SFA. Public SFAs, SFAs that participate in both the NSLP and SBP, large SFAs, and high-poverty SFAs are significantly more likely to serve free meals. Not surprisingly, high-poverty SFAs had the highest proportion of free meals, with a total of 69.1 percent of all meals.

Exhibit III.1

Annual NSLP Participation by Type of SFA
(SY 1987-88)

	Lunches Served	
	Number ¹	Percent ²
TOTAL SAMPLE	4,002.1	100%
Type of SFA		
Public	3,916.5	97.9
Private	85.6	2.1
Participation in SBP		
NSLP and SBP	2,369.0	59.2
NSLP only	1,633.1	40.8
SFA Size		
Small (1-999)	309.9	7.8
Medium (1000-4999)	1,233.9	30.8
Large (5000+)	2,458.3	61.4
Poverty Level of SFA		
High (60% or more F&R)	1,324.1	33.1
Low (0-59% F&R)	2,678.0	66.9

¹Millions of meals.

²Represents the percentage of total lunches served across all types of SFAs.

Data Source: Year One SFA Manager Mail Survey.

Exhibit III.2

Annual NSLP Participation by Meal Reimbursement Category and Type of SFA
(SY 1987-88)

	Number ¹ (Percent) of Lunches Served							
	Free		Reduced-Price		Paid		All Meals	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
TOTAL SAMPLE	1,590.4	39.7%	262.3	6.6%	2,149.4	53.7%	4,002.1	(100%)
Type of SFA								
Public	1,571.0	40.1*	254.5	6.5	2,091.0	53.4*	3,916.5	(100%)
Private	19.4	22.7	7.8	9.1	58.4	68.2	85.6	(100%)
Participation in SBP								
NSLP and SBP	1,230.1	51.9*	168.7	7.1	970.2	41.0*	2,369.0	(100%)
NSLP only	360.3	22.1	93.6	5.7	1,179.2	72.2	1,633.1	(100%)
SFA Size								
Small (1-999)	82.3	26.6*	20.3	6.6	207.3	66.9*	309.9	(100%)
Medium (1000-4999)	359.8	29.2*	77.1	6.2	797.0	64.6*	1,233.9	(100%)
Large (5000+)‡	1,148.3	46.7	164.9	6.7	1,145.1	46.6	2,458.3	(100%)
Poverty Level of SFA								
High (60% or more F&R)	915.2	69.1*	103.9	7.8	305.1	23.0*	1,324.1	(100%)
Low (0-59% F&R)	675.2	25.2	158.4	5.9	1,844.3	68.9	2,678.0	(100%)

¹Millions of meals.

*Difference is statistically significant at the .01 level.

‡Reference group used in comparisons: Large SFAs vs. Small SFAs; Large SFAs vs. Medium SFAs.

Data Source: Year One SFA Manager Mail Survey.

Conversely, private SFAs, SFAs that do not participate in the SBP, small and medium-size SFAs and low-poverty SFAs serve a higher proportion of paid meals. Over 60 percent of the lunches served in these groups of SFAs were paid meals.

Estimated SBP Participation

An estimated 604 million breakfasts were served in the SBP in SY 1987-88 (Exhibit III.3). All but about one percent of these breakfasts were served in public schools. Most breakfasts were served in large SFAs (75.9 percent) and high-poverty SFAs (54.4 percent).

Exhibit III.4 shows the proportion of SBP meals served nationally to children eligible for free and reduced price meals, as well as students who pay full-price for their meals. As the exhibit illustrates, more than 8 out of every 10 school breakfasts are served free or at a reduced price. While there are some differences among types of SFAs, in all cases the proportion of free and reduced-price meals accounts for 80 percent or more of the total. The only significant difference among SFA subgroups is that medium-sized SFAs serve proportionately fewer free breakfasts and more paid breakfasts than large SFAs.

Comparison with FNS Administrative Data

Exhibit III.5 summarizes annual NSLP participation for SY 1987-88 as estimated in this study (see the column titled CNOPS Data) and reported in FNS program data.¹ Because of the methodology used in constructing weights for the survey (see Appendix H), the CNOPS estimates of the total number of meals served agrees quite well with FNS data. Estimates for total and reduced-price meals are virtually identical, and estimates for free and paid meals differ from FNS data by less than two percent.

Exhibit III.6 provides a comparison of CNOPS and FNS administrative data for SBP meals. The two total estimates are essentially the same with a difference of less than 1 percent. Similarly, the CNOPS and FNS estimates are quite close for free and reduced-price breakfasts, differing by about two percent.

¹/CNOPS data are based on school-year (September-June) totals, while FNS data are based on Fiscal Year (July-June) totals. Since the NSLP and SBP are inactive in most SFAs during the months of July and August, however, data from the two sources should be very comparable.

Exhibit III.3

Annual SBP Participation by Type of SFA
(SY 1987-88)

	Breakfasts Served	
	Number ¹	Percent ²
TOTAL SAMPLE	603.8	100%
Type of SFA		
Public	598.1	99.1
Private	5.6	0.9
SFA Size		
Small (1-999)	35.1	5.8
Medium (1000-4999)	110.4	18.3
Large (5000+)	458.3	75.9
Poverty Level of SFA		
High (60% or more F&R)	328.6	54.4
Low (0-59% F&R)	275.1	45.6

¹Millions of meals.

²Represents the percentage of total breakfasts served across all types of SFAs.

Data Source: Year One SFA Manager Mail Survey.

Exhibit III.4

Annual SBP Participation by Meal Reimbursement Category and Type of SFA
(SY 1987-88)

	Number ¹ (Percent) of Breakfasts Served							
	Free		Reduced-Price		Paid		All Meals	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
TOTAL SAMPLE	503.1	83.3%	31.1	5.2%	69.6	11.5%	603.8	(100%)
Type of SFA								
Public	499.1	83.4	30.5	5.1	68.5	11.5	598.1	(100%)
Private	4.0	71.4	0.5	8.9	1.1	19.6	5.6	(100%)
SFA Size								
Small (1-999)	26.5	75.5	2.5	7.1	6.1	17.4	35.1	(100%)
Medium (1000-4999)	81.2	73.6*	7.1	6.4	22.1	20.0*	110.4	(100%)
Large (5000+)‡	395.4	86.3	21.5	4.7	41.4	9.0	458.3	(100%)
Poverty Level of SFA								
High (60% or more F&R)	290.2	88.3	15.6	4.7	22.8	6.9	328.6	(100%)
Low (0-59% F&R)	212.9	77.4	15.4	5.6	46.8	17.0	275.1	(100%)

¹Millions of meals.

*Difference is statistically significant at the .01 level.

‡Reference group used in comparisons: Large SFAs vs. Small SFAs; Large SFAs vs. Medium SFAs.

Data Source: Year One SFA Manager Mail Survey.

Exhibit III.5

Annual NSLP Participation:
Comparison of CNOPS and FNS Administrative Data
(SY 1987-88)

Meal Reimbursement Category	Number ¹ (Percent) of Lunches Served					
	CNOPS Data (SY 1987-88)		FNS Data ^{2,3} (FY 1988)		Difference	
	Number	Percent	Number	Percent	Number	Percent
TOTAL	4,002.1	100.0%	4,000.4	100.0%	+1.7	0.0%
Free	1,590.4	39.7	1,620.4	40.5	-30.0	-1.9
Reduced-Price	262.3	6.6	261.5	6.5	+0.8	0.0
Paid	2,149.4	53.7	2,118.4	53.0	+31.0	+1.5

¹Millions of meals.

²Data Source: FNS/PID/Monthly Program Report Summary, National School Lunch Program, FY 1988.
USDA, Food and Nutrition Service, 1989.

³CNOPS data are based on school year (July - June) totals, while FNS data are based on fiscal year (October - September) totals.

Exhibit III.6

Annual SBP Participation:
Comparison of CNOPS and FNS Administrative Data
(SY 1987-88)

Type of Meal	Number ¹ (Percent) of Breakfasts Served					
	CNOPS Data		FNS Data ^{2,3}		Difference	
	Number (SY 1987-88)	Percent	Number (FY 1988)	Percent	Number	Percent
TOTAL	603.8	100.0%	604.9	100.0%	-1.1	0.2%
Free	503.1	83.3	494.3	81.7	+8.8	+1.8
Reduced-Price	31.1	5.2	30.5	5.0	+0.6	+2.0
Paid	69.6	11.5	80.1	13.3	-10.5	-13.1

¹Millions of meals.

²Data Source: FNS/PID/Monthly Program Report Summary, School Breakfast Program, FY 1988. USDA, Food and Nutrition Service, 1989.

³CNOPS data are based on school year (July - June) totals, while FNS data are based on fiscal year (September - October) totals.

There is a larger difference for paid meals, where the CNOPS data provides an estimate that is 13 percent lower than FNS data. Two factors are potentially responsible for this difference. First, the CNOPS data are derived from a sample survey that is subject to sampling error. (The sample of SFAs that participated in the SBP represents a reduced sample size of 427 SFAs.) FNS data, on the other hand, are based on total State claims for meal reimbursements.

Second, the fact that the CNOPS and FNS counts for total breakfasts, free breakfasts and reduced-price breakfasts are in such close agreement, while the CNOPS count for paid breakfasts is somewhat lower than the FNS estimate, implies that SFA Managers may have under-reported paid breakfasts in the CNOPS survey.^{1/} In judging the overall significance of this difference, the reader should bear in mind that paid breakfasts account for a relatively minor proportion of meals served in the SBP. As Exhibit III.6 shows, approximately 82 percent of all SBP meals are served free-of-charge.

STUDENT PARTICIPATION RATES

NSLP Student Participation Rates

This section begins with a discussion of overall student participation rates. The overall participation rate computed for the full sample is then compared to estimates derived from FNS administrative data for the same time period as well as estimates from previous research studies. Next, participation rates for elementary and middle/secondary schools are discussed, and finally, separate participation rates for free, reduced-price and paid meals are presented.

Overall Student Participation Rates. Exhibit III.7 presents estimated student participation rates for the NSLP, summing across free, reduced-price and paid meals. Estimates are presented for the full sample and the various SFA subgroups. The national estimate for overall NSLP student participation in

^{1/}The observed difference is very unlikely to be an artifact of the weighting methodology used in this study. Indeed, the initial weighted count of total breakfasts (before any meal count adjustments were made [see Appendix H]) was very close to the FNS count of 604.9 million. Free and reduced-price counts were also very close to FNS universe counts. The paid count, however, was lower than the FNS count.

Exhibit III.7

NSLP Student Participation Rates by Type of SFA:

Total Lunches
(SY 1987-88)

	<u>Student Participation Rates</u>		Total Number of Potential Participants ¹ (Weighted)
	Mean	S.D.	
TOTAL SAMPLE	59.1%	18.1%	41.1
Type of SFA			
Public	59.1	17.8	40.2
Private	57.9	28.2	0.8
Participation in SBP			
NSLP and SBP	63.1*	16.7	22.7
NSLP only	54.1	18.3	18.4
SFA Size			
Small (1-999)	68.8*	18.6	2.8
Medium (1000-4999)	60.4	18.8	12.4
Large (5000+) [†]	57.5	17.3	25.9
Poverty Level of SFA			
High (60% or more F&R)	66.5*	16.6	12.1
Low (0-59% F&R)	56.0	17.8	29.0

¹Millions of students.

*Difference is statistically significant at the .01 level.

[†]Reference group used in comparisons: Large SFAs vs. Small SFAs; Large SFAs vs. Medium SFAs.

Data Source: Year One SFA Manager Mail Survey.

SY 1987-1988 is 59.1 percent. That is, on an average day in that school year, it is estimated that 59.1 percent of students who had the NSLP available to them actually participated in the program. This estimate is almost identical to the figure reported by the National Evaluation of School Nutrition Programs (NESNP-I) of 61.4 percent (based on SFA-level figures) and is close to the NESNP-II estimate of 65.7 percent (based on student reports).1/

In examining overall participation rates across types of SFAs, significantly higher rates of student participation are found for SFAs offering the SBP, small SFAs, and high-poverty SFAs. Based on previous research, one would expect participation to be greatest in SFAs that serve high proportions of children eligible for free and reduced-price meals, since these children typically participate in the program more often than children who pay full-price. Therefore, the finding that overall student participation rates are higher in high-poverty SFAs and SFAs that participate in the SBP is not surprising, since, as previously mentioned, these SFAs serve the highest proportions of free and reduced-price meals.

The finding that overall student participation in small SFAs is greater than in large SFAs is more surprising given that small SFAs are more likely to serve paying students (see Exhibit III.3). This somewhat counter-intuitive result--high participation rates with a high proportion of paid meals--may be related to two characteristics of these SFAs. First, students in small SFAs are more likely to be elementary students, and these students are known to participate in the program at higher rates than students in either middle or secondary schools. Approximately 50 percent of small SFAs contain only

1/Wellisch, J.B. et. al., The National Evaluation of School Nutrition Programs: Final Report. Santa Monica, CA: Systems Development Corporation, 1983 (referred to as NESNP-I).

Characteristics of National School Lunch and School Breakfast Program Participants. USDA, Food and Nutrition Service, 1988 (referred to as NESNP-II).

elementary schools, compared to approximately 2 percent of medium-size and large SFAs.^{1/}

Second, students in small SFAs tend to have fewer alternatives to the NSLP meal, particularly in middle/secondary schools. Small SFAs are much less likely to have a la carte items available at lunch time. (See Chapter IX for more information on characteristics of food service programs.)

Comparison with FNS Administrative Data. The estimated overall participation rate based on data from this study (59.1 percent) agrees quite well with the estimate of 59.4 percent based on FNS' administrative data.^{2/} The CNOPS estimated participation rate is only 0.3 percentage points lower than the FNS estimate.

Variation by Grade Level. As mentioned above, past research has demonstrated that participation rates differ for students of different ages, with younger children participating more frequently than older children. To examine this issue, the SFA Mail Survey was designed to collect the disaggregated data needed to calculate distinct participation rates for elementary and middle/secondary schools. Specifically, SFA Managers were asked to supply the following data separately for the elementary and middle/secondary schools in their district: number of schools, enrollment, potential NSLP and SBP participants, average daily attendance, number of operating days, numbers of children approved for free and reduced-price meals, and annual meal counts by category.

Unfortunately, records are often not maintained separately for individual schools within an SFA, and many SFA Managers were unable to provide this

^{1/}The categories of SFAs shown in the various tables presented in this report are highly correlated. To facilitate interpretation of the tabulated data, Exhibits ET-III.1 through ET-III.5 are provided in Part 3 of this report to aid the reader.

^{2/}**Annual Historical Review of FNS Programs: Fiscal Year 1988.** USDA, Food and Nutrition Service, 1989. FNS' participation rates are calculated by determining the average number of meals served (9 month average (Oct. - May) plus September) and dividing by program enrollment, using unrounded data.

information. Fifty percent of SFAs that completed the Year One mail survey provided data that were complete enough to support calculation of elementary school participation rates; approximately 36 percent of SFAs responding provided adequate data for middle/secondary school participation rates. While this reduced sample size does not constitute a nationally representative sample and is therefore not generalizable to the total NSLP population, it does provide a sizable group of SFAs that can be used to identify patterns of program participation. Moreover, a comparison of the overall participation rates for SFAs that did provide elementary and secondary data and those that did not revealed that participation rates for the two groups are not significantly different from each other (58.9 percent vs. 57.8 percent, respectively).

As expected, participation rates are significantly higher in elementary schools than in secondary schools (Exhibits III.8 and ET-III.6). On an average school day, 71.6 percent of elementary school students select an NSLP meal, compared to 48.7 percent of secondary school students. This difference is statistically significant for the full sample of SFAs (which represents 50 percent of SFAs with elementary schools and 36 percent of SFAs with secondary schools). The participation rates for elementary and secondary schools are quite close to the rates found in the NESNP-I study, which were 67.8 percent in elementary schools and 49.1 percent in secondary schools.

Free Lunch Student Participation Rates. The estimated NSLP participation rate for children approved for free lunches in SY 1987-88 is 89.7 percent (Exhibit III.9). This is consistent with findings from other studies. For example, NESNP-I reported an overall free lunch participation rate of 85.4 percent (based on student reports). NESNP-II found average daily participation among children approved for free meals to be 91.8 percent (also based on student reports). While differences in data sources (e.g., SFA data vs. student reports) affect the absolute value of these numbers, the pattern is consistent: children who are approved for free meals are frequent participants.

The high level of participation (over 80 percent) among children approved for free meals is observed in each subgroup of SFAs assessed in this study. None of the between-group differences were found to be statistically significant.

Exhibit III.8

NSLP Student Participation Rates in
Elementary and Middle/Secondary Schools: Total Lunches
(SY 1987-88)

School Type	<u>Student Participation Rates</u>	
	Mean	S.D.
Elementary Schools	71.6%*	18.6%
Middle/Secondary Schools	48.7	20.2

*Difference is statistically significant at the .01 level.

Note: Elementary school participation rates based on data from 561 SFAs (50.4 percent of the SFAs that completed the Year One Mail Survey), and middle/secondary school participation rates are based on data from 399 SFAs (35.8 percent). These SFAs were the only ones that provided data separately for elementary and middle/secondary schools.

Data Source: Year One SFA Manager Mail Survey.

Exhibit 111.9

NSLP Student Participation Rates by Type of SFA:
Free Lunches
 (SY 1987-88)

	<u>Free Lunch Participation Rates</u>		Total Number of Potential Participants ¹ (Weighted)
	Mean	S.D.	
TOTAL SAMPLE	89.7%	10.4%	10.6
Type of SFA			
Public	89.8	10.2	10.5
Private	83.6	12.8	0.1
Participation in SBP			
NSLP and SBP	90.2	10.5	8.1
NSLP only	88.3	9.9	2.5
SFA Size			
Small (1-999)	89.5	10.0	0.6
Medium (1000-4999)	89.7	9.2	2.4
Large (5000+)	89.8	10.8	7.6
Poverty Level of SFA			
High (60% or more F&R)	89.8	11.0	6.1
Low (0-59% F&R)	89.7	9.5	4.5

¹Millions of students.

Note: None of the differences between SFA subgroups were statistically significant at the .01 level.

Data Source: Year One SFA Manager Mail Survey.

Exhibit III.11

NSLP Student Participation Rates by Type of SFA:

Paid Lunches
(SY 1987-88)

	<u>Paid Meal Participation Rates</u>		Total Number of Potential Participants ¹ (Weighted)
	Mean	S.D.	
TOTAL SAMPLE	45.6%	19.3%	28.5
Type of SFA			
Public	45.9	18.7	27.6
Private	38.6	32.3	0.9
Participation in SBP			
NSLP and SBP	43.7	20.0	13.4
NSLP only	47.4	18.5	15.2
SFA Size			
Small (1-999)	61.8*	20.4	2.1
Medium (1000-4999)	51.5*	18.2	9.4
Large (5000+) [†]	40.5	17.7	17.1
Poverty Level of SFA			
High (60% or more F&R)	35.9*	21.0	5.1
Low (0-59% F&R)	47.8	18.2	23.4

¹Millions of students.

*Difference is statistically significant at the .01 level.

[†]Reference group used in comparisons: Large SFAs vs. Small SFAs; Large SFAs vs. Medium SFAs.

Data Source: Year One SFA Manager Mail Survey.

ulation of a total SBP participation rate was not possible.

Based on data for this reduced SFA sample, it is estimated that 20.8 percent of students enrolled in schools offering the SBP participate on an average day (see Exhibit III.12). This estimate is almost identical to the estimate of 20.7 percent derived from FNS administrative data for FY 1988.^{1/}

Data on differences in SBP participation rates by eligibility category are also presented in Exhibit III.12. These data must, however, be viewed as very tentative because only 155 of the SFAs offering the SBP (36 percent) were able to provide information on the breakdown of breakfast meals by eligibility category. Nevertheless, the data do indicate that SBP participation rates are highest for free meals (43.2 percent) and lowest for paid meals (4.3 percent).

^{1/}Annual Historical Review of FNS Programs: Fiscal Year 1988. USDA, Food and Nutrition Service, 1989.

Reduced-Price Student Participation Rates. NSLP participation among children approved for reduced-price lunches is consistently lower than participation rates for free lunches, but higher than participation rates for children who pay full price for their NSLP meals. The estimated NSLP participation rate for all students approved for reduced-price meals in SY 1987-88 is 73.0 percent (Exhibit III.10). Estimated rates from NESNP-I and NESNP-II were 81.5 and 83.4 percent respectively (based on student reports).

In general, reduced-price participation rates were about 70 percent or higher and were similar across different types of SFAs, with the exception of the smallest SFAs. Reduced-price participation was slightly higher (approximately 5-8 percentage points) in small SFAs in comparison to medium and large SFAs.

Paid Meal Student Participation Rates. Participation among children who must pay full price for an NSLP meal is markedly lower than participation for children who are approved for free or reduced-price meals. An estimated 45.6 percent of children who pay full-price purchased a reimbursable school lunch on an average school day in SY 1987-1988 (Exhibit III.11). This estimate is somewhat lower than the NESNP-I and NESNP-II estimates of 57.6 and 54.7 percent, respectively (based on student reports).

Paid NSLP participation rates differed significantly among SFAs of varying sizes. Paying students in small and medium-sized SFAs participate more frequently than comparable students in large SFAs. This is most likely attributable to the fact that students in these SFAs are more likely to be elementary school children (who are known to participate in the NSLP more frequently than older children), and that all children in these SFAs have fewer options available to them at meal time.

Paid NSLP participation was also significantly higher in low-poverty SFAs than in high-poverty SFAs.

SBP Participation Rates

Because of missing data, the total student participation rate for the SBP could only be calculated for a subset of 320 of the 426 SFAs (75 percent) that offer the program. This subset of SFAs provided data on the number of students in schools where the SBP is available. The remaining 106 SFAs did not provide information on the number of children in schools which offer the SBP and therefore the cal-

Exhibit III.10

NSLP Student Participation Rates by Type of SFA:
Reduced-Price Lunches
(SY 1987-88)

	<u>Reduced-Price Meal Participation Rates</u>		Total Number of Potential Participants ¹ (Weighted)
	Mean	S.D.	
TOTAL SAMPLE	73.0%	14.1%	2.2
Type of SFA			
Public	72.8	14.0	2.1
Private	80.0	15.3	0.1
Participation in SBP			
NSLP and SBP	72.3	14.2	1.4
NSLP only	74.4	13.8	0.8
SFA Size			
Small (1-999)	79.5*	13.8	0.2
Medium (1000-4999)	74.2	13.1	0.6
Large (5000+) [†]	71.8	14.3	1.4
Poverty Level of SFA			
High (60% or more F&R)	69.2	13.3	0.9
Low (0-59% F&R)	75.7	14.0	1.3

¹Millions of students.

*Difference is statistically significant at the .01 level.

[†]Reference group used in comparisons: Large SFAs vs. Small SFAs; Large SFAs vs. Medium SFAs.

Data Source: Year One SFA Manager Mail Survey.

Exhibit III.12

SBP Participation Rates by
Meal Reimbursement Category
(SY 1987-88)

Meal Reimbursement Category	Student Participation Rates ¹	
	Mean	S.D.
TOTAL	20.8%	12.5%
Free	43.2	16.0
Reduced-Price	14.9	9.4
Paid	4.3	4.7

¹Total participation rate was calculated for a subset of 320 of the 426 SFAs that offer the SBP. Free, reduced-price, and paid participation rates were calculated for a subset of 155 of the 426 SFAs that offer the program. These subsets included only those SFAs that provided complete data for calculation of the various participation rates.

Data Source: Year One SFA Manager Mail Survey.

IV. MEAL PRICES AND REPORTED MEAL COSTS

This chapter addresses issues related to meal prices in the NSLP and SBP and reported meal costs in SFAs participating in the NSLP. The chapter is organized into several sections. The first describes the prices charged for meals in the NSLP and SBP, including both student and adult meals. The second section of the chapter describes the changes in NSLP and SBP meal prices that have occurred in SFAs over the past few years. The third section reports on the factors that influence SFA decisions about changing meal prices. The final section of the chapter focuses on meal costs in the NSLP. The estimated average cost of producing an NSLP meal is reported, and variations in meal costs across SFAs are explored.

BACKGROUND

Previous research has shown that the price charged for an NSLP meal is a primary determinant of student participation decisions.^{1/} It is also known that payments collected from students represent a major source of revenue for school food service programs.

FNS' need for meal price information is largely related to its concern about program costs and participation. To determine the likely effects of, for example, a subsidy change in the NSLP or SBP, FNS needs to know whether such a change is likely to affect the prices charged to students, which could lead to a change in student participation and, ultimately, affect the total cost of the program. Those within FNS who are responsible for predicting participation five years in the future need to know the extent to which price changes occur independent of policy changes. Finally, the Agency needs to understand the relationship between meal pricing and SFA characteristics.

As meal prices and other program characteristics are examined over the three years of this study,

^{1/}Wellisch, J.B., Hanes, S.D., Jordan, L.A., Maurer, K.M., Vermeersch, J.: The National Evaluation of School Nutrition Programs: Final Report. Santa Monica, CA: Systems Development Corporation, 1983.

analyses will provide a better understanding of how SFAs determine prices and how prices are affected by changes in Federal subsidies, local and/or State subsidies, and other factors. Prior to this time, information on this decision-making process has been primarily anecdotal.

This study also examines the costs of producing NSLP lunches, as reported by SFAs.^{1/} The cost elements included in the analysis are food costs (commercial purchases and USDA donated commodities), labor costs, and other miscellaneous costs.

KEY RESEARCH ISSUES

To provide FNS with information on the prices charged for full-price, reduced-price, and adult lunches and breakfasts, this study addresses the following questions:

- What was the average price charged for full-price, reduced-price, and adult lunches in SY 1988-89?
- What was the average price charged for full-price, reduced-price, and adult breakfasts in SY 1988-89?
- How have prices changed from SY 1987-88 to SY 1988-89? From SY 1983-84?

To provide information on the costs of producing an NSLP lunch, the chapter addresses two additional questions:

- What is the cost of producing an NSLP lunch and how are these costs distributed across the major cost components?
- How do total Federal subsidies compare to the cost of producing NSLP lunches?

^{1/}The production of NSLP lunches is financed through Federal cash subsidies and donated commodities, State and local subsidies, and revenues from the sales of NSLP lunches, a la carte items, and other food sales to children and teachers.

DATA AND VARIABLES

Information on meal prices for SY 1988-89 and for several preceding years was requested in the SFA Manager Mail Survey. Respondents were asked to indicate the prices charged for paid and reduced-price student meals (lunches and breakfasts), as well as adult meals, in elementary and middle/secondary schools at the start of SY 1983-84 through SY 1988-89. Respondents were also asked to report any mid-year price changes that may have occurred.

Information on SY 1988-89 prices in both elementary and middle/secondary schools were readily available (unlike data for meal counts, attendance rates, etc.).^{1/} However, historical information on prices proved to be problematic, particularly for SY 1983-84 through SY 1986-87. Meal prices for SY 1987-88 are missing for 12-39 percent of cases depending on meal type (breakfast vs. lunch) and meal category (paid, reduced-price, adult). The amount of missing information on prices increases sharply for each previous year. Only 30-44 percent of SFAs reported price information for SY 1983-84. In addition, most States do not maintain data on meal prices, and so price data were missing for those SFAs where data were obtained from States.

The SFA Manager Mail Survey also requested data on SFA income and expenses for SY 1987-88. The variables constructed from the information provided in the mail survey are described in the subsequent section of this chapter that focuses on meal costs in the NSLP.

MEAL PRICES

This section presents national estimates of the prices charged by SFAs participating in the NSLP and SBP during SY 1988-89. Average prices charged in different types of SFAs are compared and the statistical significance of differences are noted. Prices for the NSLP and SBP are discussed separately, beginning with the NSLP.

^{1/}The unweighted sample size for middle/secondary schools in private SFAs was quite small (< 30), thus reliable estimates for this subgroup could not be computed.

NSLP Paid Lunches

The average price for a full-price NSLP meal in SY 1988-89, across all schools and SFAs, was 98 cents (Exhibits IV.1 and ET-IV.1). Paid lunch prices do vary by grade level, however. The average price in elementary schools was 93 cents; for middle/secondary schools the average price was 10 cents higher at \$1.03.

There is also some variation in prices for paid lunches in different types of SFAs. Specifically, prices charged in SFAs that participate in the SBP are significantly lower (9 cent difference) than prices charged in SFAs that participate only in the NSLP. Similarly, paid lunch prices in high-poverty SFAs are 11 cents lower than in low-poverty SFAs. This pattern is found in both elementary and middle/secondary schools in both SFA subgroups.

The standard deviation of the price for a paid lunch in SY 1988-89 was 21 cents, indicating that there is a substantial amount of variation in the prices students pay for full-price NSLP meals (Exhibit ET-IV.1). Exhibit IV.2 shows the distribution of prices for paid NSLP meals in both elementary and middle/secondary schools. Twenty-seven percent of all SFAs charge their elementary school students less than 85 cents for a full-price lunch, 54 percent charge between 85 cents and \$1.05, and the remaining 19 percent charge more than \$1.05. As noted above, SFAs charge higher prices in middle/secondary schools, with only 17 percent of all SFAs charging less than 85 cents for lunch, 43 percent charging between 85 cents and \$1.05, and 40 percent charging more than \$1.05.

NSLP Reduced-Price Lunches

The average price for a reduced-price lunch in SY 1988-89, across all schools and SFAs, was 38 cents (Exhibits IV.3 and ET-IV.2). There is little variation in this figure across different types of SFAs, with average prices ranging between 36 and 38 cents for a reduced-price lunch; none of the differences between SFA subgroups are statistically significant.

Due to the Federally-set 40 cent ceiling on the price of a reduced-price lunch, the variation in prices charged for reduced-price meals is much smaller than for a paid lunch, with a standard deviation of only 6 cents (Exhibit ET-IV.2). As shown in Exhibit IV.4, eighty-five percent of all

Exhibit IV.1

Average NSLP Meal Prices for Paid Lunches
in Elementary and Middle/Secondary Schools
(SY 1988-89)

	Elementary Schools	Middle/Secondary Schools	All Schools
TOTAL SAMPLE	\$.93	\$ 1.03	\$.98
Type of SFA			
Public	.93	1.02	.97
Private	.93	na	.99
Participation in SBP			
NSLP and SBP	.87*	.96*	.91*
NSLP only	.95	1.06	1.00
SFA Size			
Small (1-999)	.92	1.01	.96
Medium (1000-4999)	.94	1.03	.99
Large (5000+)‡	.94	1.06	1.00
Poverty Level of SFA			
High (60% or more F&R)	.85*	.87*	.88*
Low (0-59% F&R)	.94	1.06	.99

*Difference is statistically significant at the .01 level.

‡Reference group used in comparisons: Large SFAs vs. Small SFAs; Large SFAs vs. Medium SFAs.

na: Unweighted sample size less than 30 SFAs.

Data Source: Year One SFA Manager Mail Survey.

Exhibit IV.2

Distribution of NSLP Meal Prices for Paid Lunches
in Elementary and Middle/Secondary Schools
(SY 1988-89)

	Elementary Schools			Middle/Secondary Schools			All Schools		
	<\$.85	\$.85-\$1.05	>\$1.05	<\$.85	\$.85-\$1.05	>\$1.05	<\$.85	\$.85-\$1.05	>\$1.05
	(Percent of SFAs)			(Percent of SFAs)			(Percent of SFAs)		
TOTAL SAMPLE	27%	54%	19%	17%	43%	40%	21%	48%	31%
Type of SFA									
Public	28	53	19	18	44	39	22	47	30
Private	20	59	20	na	na	na	17	52	31
Participation in SBP									
NSLP and SBP	42	45	13	36	35	29	36	41	23
NSLP only	21	57	22	9	46	45	16	51	33
SFA Size									
Small (1-999)	26	56	18	21	45	33	23	50	26
Medium (1000-4999)	28	52	19	13	43	43	18	49	33
Large (5000+)	27	51	22	17	38	45	22	40	37
Poverty Level of SFA									
High (60% or more F&R)	53	37	10	59	28	13	52	35	13
Low (0-59% F&R)	22	57	21	9	46	45	16	51	34

na: Unweighted sample size less than 30 SFAs.

Note: Rows may not total to 100 percent due to rounding.

Data Source: Year One SFA Manager Mail Survey.

Exhibit IV.3

Average NSLP Meal Prices for Reduced-Price Lunches
in Elementary and Middle/Secondary Schools
(SY 1988-89)

	Elementary Schools	Middle/Secondary Schools	All Schools
TOTAL SAMPLE	\$.38	\$.38	\$.38
Type of SFA			
Public	.38	.38	.38
Private	.38	na	.38
Participation in SBP			
NSLP and SBP	.36	.36	.36
NSLP only	.38	.38	.38
SFA Size			
Small (1-999)	.38	.38	.38
Medium (1000-4999)	.38	.38	.38
Large (5000+)	.36	.37	.37
Poverty Level of SFA			
High (60% or more F&R)	.37	.38	.38
Low (0-59% F&R)	.38	.38	.38

na: Unweighted sample size less than 30 SFAs.

Note: None of the differences between SFA subgroups are statistically significant.

Data Source: Year One SFA Manager Mail Survey.

Exhibit IV.4

Distribution of NSLP Meal Prices for Reduced-Price Lunches
 in Elementary and Middle/Secondary Schools
 (SY 1988-89)

	Elementary Schools			Middle/Secondary Schools			All Schools		
	<\$.25	\$.25-\$.39	\$.40 ¹	<\$.25	\$.25-\$.39	\$.40 ¹	<\$.25	\$.25-\$.39	\$.40 ¹
	(Percent of SFAs)			(Percent of SFAs)			(Percent of SFAs)		
TOTAL SAMPLE	6%	9%	85%	7%	9%	85%	5%	10%	85%
Type of SFA									
Public	7	8	84	7	8	85	7	8	85
Private	1	13	87	na	na	na	1	17	83
Participation in SBP									
NSLP and SBP	13	11	77	13	14	73	12	11	77
NSLP only	4	8	88	4	7	89	3	10	87
SFA Size									
Small (1-999)	5	9	86	5	8	87	4	11	85
Medium (1000-4999)	6	9	85	6	9	85	6	9	85
Large (5000+)	11	10	79	10	12	78	9	12	80
Poverty Level of SFA									
High (60% or more F&R)	8	6	86	7	7	85	5	8	86
Low (0-59% F&R)	6	10	84	6	9	84	7	10	84

¹Federal regulations set the maximum price for an NSLP reduced-price lunch at \$.40.

na: Unweighted sample size less than 30 SFAs.

Note: Rows may not total to 100 percent due to rounding.

Data Source: Year One SFA Manager Mail Survey.

SFAs charge the maximum of 40 cents for a reduced-price lunch, 10 percent charge between 25 and 39 cents, and the remaining 5 percent charge less than 25 cents. These figures do not vary across elementary and middle/secondary schools.

Adult Lunches

The average price for an adult lunch in SY 1988-89, across all SFAs, was \$1.55 in elementary schools and \$1.60 in middle/secondary schools (Exhibits IV.5 and ET-IV.3). Adults pay significantly higher prices in elementary schools in public SFAs, and in middle/secondary schools in SFAs that do not participate in the SBP.

As might be expected, the variation in lunch prices paid by adults is greater than the variation in prices charged to children. The standard deviation of the price of an adult lunch is 27 cents, compared to 21 cents for a full-price student lunch (Exhibit ET-IV.3). Exhibit IV.6 shows that 17 percent of SFAs charge less than \$1.30 for an adult lunch, 68 percent charge between \$1.30 and \$1.75, and 16 percent charge adults more than \$1.75 for lunch. The distribution of prices charged for adult lunches does not differ greatly between elementary and middle/secondary schools.

SBP Paid Breakfasts

The average price of an SBP paid breakfast in SY 1988-89 was 49 cents (Exhibits IV.7 and ET-IV.4), with little difference between prices in elementary and middle/secondary schools. At the middle/secondary school level, small SFAs charged significantly lower prices for paid breakfasts than large SFAs, and high-poverty SFAs charged prices that were significantly lower than low-poverty SFAs.

As was the case with paid lunches, there is substantial variation in the prices that SFAs charge for paid breakfasts. The standard deviation of the price of a paid SBP breakfast is 14 cents (Exhibit ET-VI.4). Exhibit IV.8 presents distributions of breakfast prices and shows that 18 percent of SFAs charge less than 40 cents for a paid breakfast, 64 percent charge between 40 and 60 cents, and 18 percent charge more than 60 cents for breakfast.

SBP Reduced-Price Breakfasts

Data on prices charged for reduced-price breakfasts are displayed in Exhibits IV.9 and ET-IV.5. The average price for a reduced-price breakfast in SY 1988-89 was 26 cents. Similar to trends already described for NSLP prices, there is relatively little variation in reduced-price charges across different types of SFAs.

Exhibit IV.5

Average NSLP Meal Prices for Adult Lunches
in Elementary and Middle/Secondary Schools
(SY 1988-89)

	Elementary Schools	Middle/Secondary Schools	All Schools
TOTAL SAMPLE	\$1.55	\$1.60	\$1.56
Type of SFA			
Public	1.59*	1.61	1.59*
Private	1.38	na	1.44
Participation in SBP			
NSLP and SBP	1.56	1.54*	1.56
NSLP only	1.55	1.63	1.56
SFA Size			
Small (1-999)	1.48	1.57	1.50
Medium (1000-4999)	1.61	1.61	1.61
Large (5000+)‡	1.62	1.64	1.63
Poverty Level of SFA			
High (60% or more F&R)	1.61	1.62	1.61
Low (0-59% F&R)	1.54	1.60	1.55

*Difference is statistically significant at the .01 level.

‡Reference group used in comparisons: Large SFAs vs. Small SFAs; Large SFAs vs. Medium SFAs.

na: Unweighted sample size less than 30 SFAs.

Data Source: Year One SFA Manager Mail Survey.

Exhibit IV.6

Distribution of NSLP Meal Prices for Adult Lunches
in Elementary and Middle/Secondary Schools
(SY 1988-89)

	Elementary Schools			Middle/Secondary Schools			All Schools		
	<\$1.30	\$1.30-\$1.75	>\$1.75	<\$1.30	\$1.30-\$1.75	>\$1.75	<\$1.30	\$1.30-\$1.75	>\$1.75
	(Percent of SFAs)			(Percent of SFAs)			(Percent of SFAs)		
TOTAL SAMPLE	18%	67%	15%	12%	69%	19%	17%	68%	16%
Type of SFA									
Public	13	69	18	11	69	19	13	70	18
Private	38	58	3	na	na	na	32	61	8
Participation in SBP									
NSLP and SBP	17	72	12	16	73	11	16	72	12
NSLP only	18	65	17	10	67	23	17	66	17
SFA Size									
Small (1-999)	27	63	10	18	64	18	24	65	11
Medium (1000-4999)	11	68	21	10	69	21	11	68	21
Large (5000+)	8	77	15	9	75	16	8	77	15
Poverty Level of SFA									
High (60% or more F&R)	7	87	5	5	89	6	7	87	7
Low (0-59% F&R)	20	63	17	14	64	22	18	64	17

na: Unweighted sample size less than 30 SFAs.

Note: Rows may not total to 100 percent due to rounding.

Data Source: Year One SFA Manager Mail Survey.

Exhibit IV.7

Average SBP Meal Prices for Paid Breakfasts
in Elementary and Middle/Secondary Schools
(SY 1988-89)

	Elementary Schools	Middle/Secondary Schools	All Schools
TOTAL SAMPLE	\$.48	\$.50	\$.49
Type of SFA			
Public	.48	.50	.49
Private	.56	na	.55
SFA Size			
Small (1-999)	.44	.39*	.44*
Medium (1000-4999)	.49	.51	.50
Large (5000+)‡	.51	.55	.53
Poverty Level of SFA			
High (60% or more F&R)	.45	.43*	.45*
Low (0-59% F&R)	.50	.53	.51

*Difference is statistically significant at the .01 level.

‡Reference group used in comparisons: Large SFAs vs. Small SFAs; Large SFAs vs. Medium SFAs.
na: Unweighted sample size less than 30 SFAs.

Data Source: Year One SFA Manager Mail Survey.

Exhibit IV.8

Distribution of SBP Meal Prices for Paid Breakfasts
in Elementary and Middle/Secondary Schools
(SY 1988-89)

	Elementary Schools			Middle/Secondary Schools			All Schools		
	<\$.40	\$.40-\$.60	>\$.60	<\$.40	\$.40-\$.60	>\$.60	<\$.40	\$.40-\$.60	>\$.60
	(Percent of SFAs)			(Percent of SFAs)			(Percent of SFAs)		
TOTAL SAMPLE	19%	68%	14%	21%	58%	21%	18%	64%	18%
Type of SFA									
Public	19	69	13	22	58	21	18	65	17
Private	12	50	37	na	na	na	12	52	36
SFA Size									
Small (1-999)	31	62	8	51	47	2	30	62	8
Medium (1000-4999)	17	70	14	18	56	26	16	62	22
Large (5000+)	7	73	20	5	69	26	6	69	24
Poverty Level of SFA									
High (60% or more F&R)	25	67	8	32	60	8	25	67	8
Low (0-59% F&R)	15	68	17	17	57	27	14	63	23

na: Unweighted sample size less than 30 SFAs.

Note: Rows may not total to 100 percent due to rounding.

Data Source: Year One SFA Manager Mail Survey.

Exhibit IV.9

Average SBP Meal Prices for Reduced-Price Breakfasts
in Elementary and Middle/Secondary Schools
(SY 1988-89)

	Elementary Schools	Middle/Secondary Schools	All Schools
TOTAL SAMPLE	\$.25	\$.25	\$.26
Type of SFA			
Public	.25	.25	.25
Private	.27	na	.27
SFA Size			
Small (1-999)	.25	.23	.25
Medium (1000-4999)	.26	.25	.26
Large (5000+)	.26	.26	.26
Poverty Level of SFA			
High (60% or more F&R)	.25	.24	.25
Low (0-59% F&R)	.26	.25	.26

na: Unweighted sample size less than 30 SFAs.

Note: None of the differences within SFA subgroups are statistically significant.

Data Source: Year One SFA Manager Mail Survey.

Exhibit IV.10 presents distributions of prices charged for reduced-price breakfasts. Nine percent of SFAs charge less than 20 cents for a reduced-price breakfast, 32 percent charge between 20 and 29 cents, and most (59 percent) charge the Federally-set maximum of 30 cents. This pattern is consistent in both elementary and middle/secondary schools.

Adult Breakfasts

Adult breakfast prices for SY 1988-89 are summarized in Exhibits IV.11 and ET-IV.6. In SY 1988-89 an adult breakfast cost an average of 74 cents in elementary schools and 76 cents in middle/secondary schools. Private SFAs charge significantly higher prices than public SFAs; otherwise, there are no differences in adult breakfast prices across the various subgroups of SFAs.

There is, however, substantial variation in the price of adult breakfasts across SFAs in general, with a standard deviation of 19 cents. Exhibit IV.12 presents distributions of adult breakfast prices and shows that 17 percent of SFAs charge less than 60 cents for an adult breakfast, 66 percent charge between 60 and 90 cents, and 17 percent charge more than 90 cents.

MEAL PRICE CHANGES

This section presents information on the changes in prices charged for paid, reduced-price, and adult NSLP meals. Price changes are examined for two time periods: (1) the one-year change from SY 1987-88 to SY 1988-89, and (2) the five-year change from SY 1983-84 to SY 1988-89. It should be recalled that there are large amounts of missing data on prices for SY 1983-84 through SY 1986-87 (see the discussion earlier in this chapter). The following discussion highlights trends that can be detected with the available data.

Paid Lunches

Most SFAs held the price of a paid NSLP meal constant between SY 1987-88 and SY 1988-89 (Exhibit ET-IV.7). Elementary school prices were increased in approximately 28 percent of SFAs; the average price change was 11 cents. Prices in middle/secondary schools were increased by the same amount in approximately 36 percent of SFAs.

The available data indicate that between SY 1983-84 and SY 1988-89 (a 5-year period), approximately 30 percent of SFAs held the price of a paid meal constant in their elementary schools, while 70 percent raised prices (Exhibit ET-IV.8). Among SFAs that

Exhibit IV.10

Distribution of SBP Meal Prices for Reduced-Price Breakfasts
in Elementary and Middle/Secondary Schools
(SY 1988-89)

	Elementary Schools			Middle/Secondary Schools			All Schools		
	<\$.20	\$.20-\$.29	\$.30 ¹	<\$.20	\$.20-\$.29	\$.30 ¹	<\$.20	\$.20-\$.29	\$.30 ¹
	(Percent of SFAs)			(Percent of SFAs)			(Percent of SFAs)		
TOTAL SAMPLE	9%	33%	59%	8%	36%	56%	9%	32%	59%
Type of SFA									
Public	9	33	58	8	36	56	8	33	59
Private	11	17	71	na	na	na	11	18	71
SFA Size									
Small (1-999)	15	32	54	20	34	46	15	32	54
Medium (1000-4999)	3	39	58	3	42	55	3	39	59
Large (5000+)	11	24	65	8	28	64	10	24	66
Poverty Level of SFA									
High (60% or more F&R)	8	34	59	7	48	46	8	33	59
Low (0-59% F&R)	10	32	58	9	30	61	9	32	59

¹Federal regulations set the maximum price for an SBP reduced-price breakfast at \$.30.

na: Unweighted sample size less than 30 SFAs.

Note: Rows may not total to 100 percent due to rounding.

Data Source: Year One SFA Manager Mail Survey.

Exhibit IV.11

Average SBP Meal Prices for Adult Breakfasts
in Elementary and Middle/Secondary Schools
(SY 1988-89)

	Elementary Schools	Middle/Secondary Schools	All Schools
TOTAL SAMPLE	\$.74	\$.76	\$.75
Type of SFA			
Public	.73*	.75	.74*
Private	.93	na	.93
SFA Size			
Small (1-999)	.72	.67	.73
Medium (1000-4999)	.73	.76	.74
Large (5000+)‡	.78	.82	.79
Poverty Level of SFA			
High (60% or more F&R)	.76	.76	.78
Low (0-59% F&R)	.73	.75	.74

*Difference is statistically significant at the .01 level.

‡Reference group used in comparisons: Large SFAs vs. Small SFAs; Large SFAs vs. Medium SFAs.

na: Unweighted sample size less than 30 SFAs.

Data Source: Year One SFA Manager Mail Survey.

Exhibit IV.12

Distribution of SBP Meal Prices for Adult Breakfasts
in Elementary and Middle/Secondary Schools
(SY 1988-89)

	Elementary Schools			Middle/Secondary Schools			All Schools		
	<\$.60	\$.60-\$.90	>\$.90	<\$.60	\$.60-\$.90	>\$.90	<\$.60	\$.60-\$.90	>\$.90
	(Percent of SFAs)			(Percent of SFAs)			(Percent of SFAs)		
TOTAL SAMPLE	18%	67%	15%	18%	65%	17%	17%	66%	17%
Type of SFA									
Public	18	68	14	18	65	17	18	68	14
Private	2	25	73	na	na	na	2	21	77
SFA Size									
Small (1-999)	24	67	9	45	47	8	23	66	11
Medium (1000-4999)	17	64	19	14	66	20	16	64	20
Large (5000+)	12	71	17	3	77	21	11	71	18
Poverty Level of SFA									
High (60% or more F&R)	9	80	11	9	81	10	9	78	13
Low (0-59% F&R)	23	59	18	23	56	21	22	60	19

na: Unweighted sample size less than 30 SFAs.

Note: Rows may not total to 100 percent due to rounding.

Data Source: Year One SFA Manager Mail Survey.

reported price increases during this period, elementary school lunch prices were increased approximately 1.7 times for an average of 17 cents over the 5-year period. The size of any given increase averaged 11 cents.

Over the same period, 81 percent of all SFAs raised the price of a paid lunch in their middle/secondary schools; 19 percent held prices constant. Among SFAs that did report price increases, middle/secondary school prices for paid lunches were increased an average of 2.2 times, for an average of 19 cents over the 5 years. The size of a given increase averaged 11 cents.

Reduced-Price Lunches

Only two percent of all SFAs raised the price of a reduced-price lunch in their elementary or middle/secondary schools between SY 1987-88 and SY 1988-89 (Exhibit ET-IV.9). The average increase in these few SFAs was 10 cents. As noted earlier in this chapter, 85 percent of all SFAs charge the Federally-set maximum for a reduced-price lunch, so it is not surprising to see that most SFAs have not increased prices over the past few years.

Looking back over the 5-year period from SY 1983-84 to SY 1988-89, the available data indicate that more than three quarters of all SFAs held the price of a reduced-price lunch constant in their elementary schools; approximately 83 percent did so in their middle/secondary schools (Exhibit ET-IV.10). Those SFAs that did raise prices averaged a 10-cent increase in elementary schools and an 11-cent increase in middle/secondary schools.

Adult Lunches

The price of an adult meal was more likely to change between SY 1987-88 and SY 1988-89 than the price of a student meal. As Exhibit ET-IV.11 illustrates, 42 percent of all SFAs increased the price of an adult lunch in elementary schools (by an average of 17 cents) and 46 percent increased prices in middle/secondary schools (by an average of 16 cents).

Between SY 1983-84 and SY 1988-89, 80 percent of SFAs increased lunch prices for adults in elementary schools and 87 percent did so in middle/secondary schools, as shown in Exhibit ET-IV.12. Among SFAs that did report price increases, the average price increase was 30 cents in elementary schools and 27 cents in middle/secondary schools. The average size of any given increase was 18 and 19 cents, respectively.

Paid Breakfasts

Between SY 1987-88 and SY 1988-89, 84 percent of all SFAs did not change the price of a paid breakfast in elementary schools, while 79 percent held paid breakfast prices constant in middle/secondary schools (Exhibit ET-IV.13). When SFAs did increase prices, the average increase was 10 cents in elementary schools and 12 cents in middle/secondary schools.

For the five-year period from SY 1983-84 to SY 1988-89, available data show that 62 percent of all SFAs did not increase the price of a paid elementary school breakfast, and 61 percent reported no increase in the price of a paid middle/secondary school breakfast (Exhibit ET-IV.14). In SFAs that did report breakfast price increases, the 5-year increase averaged 11 cents in elementary schools and 9 cents in middle/secondary schools and the average for any given increase was 10 cents and 8 cents, respectively.

Reduced-Price Breakfasts

Most SFAs held the price of a reduced-price breakfast constant between SY 1987-88 and SY 1988-89 (Exhibit ET-IV.15). Only 4 percent of SFAs reported a price increase in elementary schools and only 4 percent reported a price increase in middle/secondary schools. For those few SFAs that reported price increases, the average increase was about 10 cents. As was the case with reduced-price lunches, most SFAs already charge the Federally-set maximum of 30 cents for a reduced-price breakfast.

Three-quarters or more of all SFAs also held reduced-price breakfast prices constant in the 5-year period from SY 1983-84 to SY 1988-89 (Exhibit ET-IV.16). SFAs that did report price increases raised the price of a reduced-price breakfast in elementary schools by an average of 11 cents and an average of 13 cents in middle/secondary schools.

Adult Breakfasts

Most SFAs did not change the adult breakfast price between SY 1987-88 and SY 1988-89 (Exhibit ET-IV.17). Sixteen percent of SFAs did increase adult breakfast prices in elementary schools, by an average of 15 cents, and 22 percent of SFAs increased adult breakfast prices in middle/secondary schools, by an average of 16 cents.

The available data indicate that over the 5 years between SY 1983-84 and SY 1988-89 most SFAs held adult breakfast prices constant (Exhibit ET-IV.18). During this period, the average price increase in SFAs that did raise prices was about 15 cents.

SFA DECISIONS ABOUT AND REACTIONS TO PRICE INCREASES

To gain insight into factors which influence SFA decisions about meal pricing, a series of questions was included in the SFA Manager Telephone Survey. Areas of inquiry included reasons for price increases, steps taken to avoid price increases, and techniques employed to maintain participation when a price increase must be implemented. Responses from SFA Managers are summarized below.

Deciding to Increase Prices

Not surprisingly, the major factors affecting decisions about meal prices are changes in the food and labor costs incurred by SFAs (Exhibit IV.13). Seventy-eight percent of SFAs reported that increased food costs was one of the main reasons for their most recent increase in lunch or breakfast prices. Increased labor costs was a significant factor for 61 percent of all SFAs.

Steps to Avoid Increased Prices

While all SFAs reported that they employ at least one strategy to avoid having to increase meal prices, no single strategy is utilized by a majority of SFAs (Exhibit IV.14). SFAs are most likely to make menu changes that will allow them to incorporate more low-priced food items (33 percent of SFAs) or to increase the use of donated commodities (29 percent). Other less common approaches to cost control include taking steps to reduce kitchen labor (21 percent), increase staff productivity (16 percent), using competitive bidding to secure better food prices (15 percent) and implementing portion control measures to decrease food waste (12 percent).

Steps to Maintain Participation

When asked about special steps taken to maintain NSLP/SBP participation in the face of a meal price increase, 60 percent of SFA managers indicated that they do not take specific actions in this situation (Exhibit IV.15).

Among SFAs that do take special steps to maintain participation, most initiate activities aimed at increasing student and parent awareness of the program (50 percent of the SFAs that reported taking special steps), make special efforts to avoid additional price increases during the year (40 percent), or attempt to improve the overall quality of meals served (24 percent). Only 3 percent of these SFAs reported that they intentionally offered specific foods known to be popular with students as a strategy for maintaining participation in the face of a price increase. These data are summarized in Exhibit IV.16.

Exhibit IV.13

Reasons for Increasing Lunch or
Breakfast Prices
(SY 1988-89)

Reason for Price Increase	Lunch (Percent of SFAs)	Breakfast (Percent of SFAs)
Increased Food Costs	78%	78%
Increased Labor Costs	61	56
Unspecified Money Problems	7	4
Decreased Local Subsidy	2	1
Decreased Federal Subsidy	3	5
Lower Participation	2	1
Equipment Costs	2	4
Total Weighted N	11,673	1,654

Ns reflect SFAs whose last change in lunch (breakfast) prices had been an increase. Columns total more than 100 percent because SFAs could provide more than one reason for increasing prices.

Data Source: Year One SFA Manager Telephone Survey.

Exhibit IV.14

Steps Taken to Avoid an Increase in
Prices Charged to Students
(SY 1988-89)

Steps taken to avoid an increase in prices charged to students or to keep prices down	Total Sample (Percent of SFAs)
Switch to Lower Priced Items	33%
Increase Use of Donated Commodities	29
Reduce Kitchen Labor	21
Improve Productivity	16
Use More Competitive Bidding	15
Control Portions/Food Waste	12
Reduce Administrative Labor	9
Increase A La Carte Sales	7
Encourage More Participation	8
Increase Price of A La Carte Items	4
Use School District General Funds	4
Watch Accounting Closely	3
Use More Part-Time Staff	3
 Total Weighted N	 14,259

Data Source: Year One SFA Manager Telephone Survey.

Exhibit IV.15

Initiation of Activities Designed to Maintain
Participation After Meal Prices Have Been Increased
(SY 1988-89)

	Total Sample (Percent of SFAs)
<hr/>	
When you find that you have to raise meal prices, do you take any special steps to maintain participation?	
Yes	40%
No	60
Total Weighted N	14,259

Data Source: Year One SFA Manager Telephone Survey.

Exhibit IV.16

Specific Steps Taken to Maintain Participation
After Meal Prices Have Been Increased
(SY 1988-89)

Specific Steps	Total Sample (Percent of SFAs)
<hr/>	
Increase Awareness of Program	50%
Don't Change Prices in Mid-Year	40
Improve Meal Quality	24
Offer Meal Promotions	12
Increase Choices, Use Popular Foods	3
Increase Prices Gradually	2
Other	10
Total Weighted N	5,895

Ns and percentages reflect SFAs that do take special steps to maintain program participation when meal prices have to be increased.

Column percent totals more than 100 percent because SFAs could provide multiple responses.

Data Source: Year One SFA Manager Telephone Survey.

NSLP MEAL COSTS AND SUBSIDIES

This section examines the SFA reported costs of producing NSLP lunches. The cost elements included in the analysis are food costs (commercial purchases and USDA donated commodities), labor costs, and other miscellaneous costs. The costs of producing NSLP lunches are financed through Federal cash subsidies and donated commodities, State and local subsidies, and revenues from the sales of NSLP lunches, a la carte items, and other food sales to children and teachers. The section examines two broad research questions:

- What is the cost of producing an NSLP lunch and how are these costs distributed across the major cost components?
- How do total Federal subsidies compare to the cost of producing NSLP lunches?

Data and Variables

This analysis is based on the reported operating expenses of SFAs that provided detail on their income and expenses for SY 1987-88 in the Year One SFA Mail Survey. The reported costs reflect the actual expenditures (or cash outlays) made by SFAs plus the assigned value of USDA donated commodities received.

In addition to items that are charged to the SFA budget, SFAs often use resources for which they are not charged. Examples of resources that are often not charged to the SFA's account include cafeteria and kitchen space, the use of school district facilities to store food and supplies, the use of school district personnel and equipment to transport USDA donated commodities, and the time spent by school district administrative staff on food service administrative tasks. To the extent that SFAs use resources that are not charged to the SFA's account, reported costs will understate the full cost of SFA operations.

The following variables were constructed from the information provided in the mail survey:

Total SFA reported cost. Equal to the sum of total SFA expenditures and the assigned value of donated commodities.

Total food cost. Equal to the sum of commercial food purchases and the assigned value of donated commodities.

Total labor cost. Total salaries and fringe benefits charged to the SFA account.

Other SFA costs. Includes all other costs charged to the SFA account.

To determine the cost of producing an NSLP meal, it is necessary to separate the costs attributable to these reimbursable meals from the cost attributable to other food items produced by SFAs. The inherent problem in allocating meal production costs is the issue of joint production. School meal production involves the preparation and service of a range of meals and food items, including NSLP lunches, SBP breakfasts, ala carte items, adult meals, and so on. Clearly, these different types of meals require different amounts and kinds of food as well as different amounts of labor for preparation and serving. The problem is that the different meals are produced jointly. There is no separate accounting for the resources used in the production of the various meals and food items.

To address the issue of joint production, this study converted breakfasts, adult meals, and ala carte sales into NSLP lunch equivalents (LEQs). The algorithm used was based on an econometric model of the joint production process (see Appendix I). SFA reported costs were divided by the estimate of the number of LEQs produced to obtain an estimate of the reported cost per NSLP lunch.

Cost of Producing
an NSLP Lunch

Exhibit IV.17 presents a summary of mean reported costs per LEQ for SY 1987-88 using both SFAs and NSLP meals as the unit of analysis. Across all SFAs, the average SFA reported costs of \$1.43 to produce a lunch.^{1/} Reported costs were higher in the average large SFAs (\$1.65) than in average small (\$1.30) or medium-sized (\$1.32) SFAs.

However, when the unit of analysis is NSLP meals, the average reported cost of producing an NSLP

^{1/}Calculated as the average cost per LEQ across all SFAs in the nation, i.e., the SFA is the unit of analysis. This analysis gives equal weight to each SFA, regardless of size.

Exhibit IV.17

Total Cost per LEQ
(SY 1987-88)

<u>Total Cost Per LEQ</u>			
	Unit of Analysis is SFA	Unit of Analysis is NSLP Lunch	Total Weighted N
TOTAL SAMPLE	\$1.43	\$1.62	12,096
Participation in SBP			
NSLP and SBP	1.18	1.62	3,389
NSLP only	1.53	1.63	8,707
SFA Size			
Small (1-999)	1.30*	1.40*	5,776
Medium (1000-4999)	1.52*	1.52*	4,714
Large (5000+)‡	1.65	1.71	1,605
Poverty Level of SFA			
High (60% or more F&R)	1.33	1.71	1,980
Low (0-59.9% F&R)	1.45	1.59	10,117

*Difference is statistically significant at the .01 level.

‡Reference group used in comparisons: Large SFAs vs. Small SFAs; Large SFAs vs. Medium SFAs.

Note: Means for public vs. private SFAs are not presented due to the large amount of missing data for private SFAs.

Data Source: Year One SFA Manager Mail Survey.

lunch in SY 1987-88 was \$1.62.¹/ This reflects the large number of meals served in the small number of large SFAs where reported costs are significantly higher. Over 60 percent of the lunches served in SY 1987-88 were served in large school districts with enrollments over 5,000.

While there is a fair amount of variation in reported meal costs (the standard deviation is \$.43, and cost per LEQ ranges from less than \$1.00 to over \$2.00), over half of all SFAs (53.3 percent) had reported costs between \$1.40 and \$2.00 (Exhibit IV.18).

As one would expect, food and labor costs account for the vast majority (88 percent) of reported costs, based on costs incurred by the average SFA (Exhibit IV.19). Food costs (including the assigned value of donated commodities) accounted for just under one-half (48 percent) of reported costs, averaging \$0.68 per LEQ in SY1987-88. Labor costs accounted for 40 percent of reported costs (\$0.57 per LEQ). All other costs, including supplies, contract services, capital expenditures, indirect charges by the school district, and storage and transportation, represented only 12 percent of SFA reported costs (averaging \$0.18 per LEQ). Roughly the same distribution of costs is observed when the LEQ is the unit of analysis.

Federal Subsidies and Meal Costs

As noted above, federal subsidies include both cash reimbursement and donated commodities. The reimbursement rate for free lunches was \$1.405 in SY 1987-88. In addition, SFAs were eligible to receive \$0.12 per NSLP lunch in entitlement commodities and, subject to the availability, all the bonus commodities that could be used without waste. The average value of bonus commodities received per meal during this period was about \$0.08. Therefore, the average total USDA subsidy for free lunches was at least \$1.60 (\$1.405 + \$0.12 + \$0.08).

This is about the same as the average reported cost of producing a lunch (\$1.62). It is, however, somewhat greater than the reported cost of producing a meal for the average SFA (\$1.43).

¹/Calculated as the average cost per LEQ across all LEQs served in the Nation, i.e., the LEQ is the unit of analysis. This analysis gives equal weight to each LEQ, and since most LEQs are produced in large SFAs, the results are dominated by the costs incurred in large SFAs.

Exhibit IV.18

Distribution of SFAs by Reported Cost Per LEQ
(SY 1987-88)

Reported Cost Per LEQ	Percent of SFAs	Total SFAs (Weighted)
\$0.00 - < 1.00	12.1%	1,466
\$1.00 - < 1.10	6.3	762
\$1.10 - < 1.20	7.6	923
\$1.20 - < 1.30	8.4	1,020
\$1.30 - < 1.40	7.3	884
\$1.40 - < 1.50	11.0	1,336
\$1.50 - < 1.60	13.5	1,637
\$1.60 - < 1.70	11.2	1,353
\$1.70 - < 2.00	17.6	2,129
\$2.00 or More	4.9	587
Total All SFAs	100%	12,096

Data Source: Year One SFA Manager Mail Survey

Exhibit IV.19

Meal Cost Components Per LEQ
(SY 1987-88)

	Meal Cost Components Per LEQ					
	Food Costs ¹		Labor Costs		Other Costs	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
TOTAL SAMPLE	\$0.68	\$0.20	\$0.57	\$0.21	\$0.18	\$0.12
Participation in SBP						
NSLP & SBP	0.55	0.21	0.46	0.24	0.17	0.14
NSLP only	0.73	0.17	0.61	0.19	0.18	0.11
SFA Size						
Small (1-999)	0.63*	0.22	0.50*	0.22	0.17*	0.12
Medium (1000-4999)	0.72	0.16	0.62*	0.16	0.17*	0.12
Large (5000+)‡	0.74	0.15	0.67	0.18	0.24	0.13
Poverty Level of SFA						
High (60% or more F&R)	0.63	0.26	0.51	0.28	0.19	0.13
Low (0-59.99% F&R)	0.69	0.18	0.58	0.18	0.18	0.12

¹Includes the assigned value of USDA donated commodities.

*Difference is statistically significant at the .01 level.

‡Reference group used in comparisons: Large SFAs vs. Small SFAs; Large SFAs vs. Medium SFAs.

Note: Means for public vs. private SFAs are not presented due to the large amount of missing data for private SFAs.

Data Source: Year One SFA Manager Mail Survey.

V. THE FOOD DONATION PROGRAM

This chapter presents findings on Food Donation Program (FDP) operations at both the State and SFA level. State operations are described first, beginning with State-level processing contracts. State reports of local (SFA) processing contracts are also discussed, followed by a description of the systems used to monitor commodity inventories.

Next, data on key program operations issues at the local level are presented. Issues include the methods utilized by SFAs to indicate preferences for the forms in which commodities are received, the level and types of problems SFAs encounter with off-condition commodities, the use of locally-initiated contracts to process USDA commodities, and finally, SFAs' use of and level of satisfaction with products produced under State and National processing contracts.

BACKGROUND

The FDP involves the donation and distribution of surplus agricultural commodities to a variety of eligible agencies. Through the Child Nutrition Programs, schools receive the majority of donated commodities. Schools derive a substantial amount of financial assistance from commodities and, for the most part, support the need to provide an outlet for domestic agricultural products. However, over the years there have been frequent requests from local administrators to change and improve the program to better meet the needs of school food service programs. The Commodity Distribution Reform Act of 1987 (P.L. 100-237), enacted numerous procedural changes designed to improve program operations and service to SFAs. Key provisions of this legislation include: (1) the establishment of a National Advisory Council on the distribution of donated commodities that would include representatives from recipient agencies, food processors and distributors, agricultural organizations, State distribution agencies and State advisory committees; and (2) the requirement that FNS develop a replacement procedure for off-condition commodities received by SFAs.

In recent years, USDA has made a considerable effort to improve the FDP. Product changes have been made, delivery procedures improved, the use of commercial vendors to deliver donated foods has increased, and technical assistance has been provided to allow State Distribution Agencies (SDAs) and SFAs to make better use of donated foods and to lower the costs of storage. The need for program refinement continues, as does the need for appropriate data to inform decisions in this area.

The challenge facing FNS is how to balance the competing needs of providing the greatest assistance to American farmers within a fixed budget, against the legitimate needs of SFAs to provide the best meals they can to participating students. Two specific areas identified as research priorities for Year One of the Child Nutrition Program Operations Study were (1) the level of service provided to SFAs, and (2) the amount and type of commodity processing occurring at both State and local levels.

Regarding the level of service received by SFAs, FNS is interested in knowing whether SFAs actively participate in informing their State agencies about their commodity preferences. FNS also requires information on the prevalence of off-condition commodities, including the type and amount of commodities involved, in order to develop the replacement procedure mandated in the Commodity Reform Act of 1987.

The degree of processing activity at the State and local levels and the associated degree of record keeping and accountability for the various commodity value pass-through systems (e.g., rebate, discount) continue to be areas of interest to FNS. FNS is sensitive to the needs of SFAs obtaining donated commodities in usable forms. By examining the levels of processing activity at the State and local level, FNS will be better able to identify the specific forms of commodities that are most suitable for direct use in school systems. In addition, examination of invoicing practices, time frames for submission and receipt of rebates, and the perceptions of the value of commodities returned at the local and State levels for various commodity processing systems will provide some insight into any problems inherent in the existing systems. This information will facilitate the assessment of current regulatory requirements while continuing the search for a system that can best accommodate the needs of processors and recipient agencies alike.

KEY RESEARCH ISSUES

The following research questions were developed to address FNS-identified priorities:

State-level operations

- How extensive are State-level processing activities?
- What specific commodities are most frequently processed under State processing agreements, and what end-products are produced?
- Do SFAs receive products processed at the State level through a rebate or discount system? For which, if any, are they required to pay a fee for repackaging or processing?
- Do States act as distributor for any of the processed end-products they produce?
- Do States use bid procedures in selecting processors?
- How do States monitor processing activities?
- How many States have SFAs that have initiated their own local processing agreements? How many SFAs are involved? Has the number of SFAs with local processing agreements changed since SY 1985-86?
- Have warehousing and distribution systems changed substantially since SY 1985-86? If so, how?
- How and when do States monitor the type and amount of commodities held in inventory by SFAs? Is this information used to allocate commodities during the year?

SFA-level operations

- What proportion of SFAs participate in the FDP?
- What proportion of SFAs communicate their preferences regarding the forms in which commodities are received? What methods do they use to do this?
- How extensive is the problem of off-condition commodities? Which commodities are most frequently involved, and what specific problems are encountered? What do SFAs do with off-condition commodities?

- How many SFAs filed complaints with their State agencies regarding commodity foods? How many complaints were written? How many were verbal?
- How extensive are local processing activities? What commodities are processed most frequently and what specific end-products are produced?
- Are locally-processed items purchased through discount, rebate or fee-for-service systems? How is the accuracy and timeliness of appropriate discounts and rebates assured?
- What procedures do SFAs use to select and monitor processors?
- What proportion of SFAs purchase processed end-products through State or National agreements? Are these products purchased under discount, rebate or fee-for-service arrangements?
- Are SFAs satisfied with the quality of products received through State or National processing agreements?

DATA AND VARIABLES

Data on FDP operations were collected in both the State Agency Survey and the Year One SFA Manager Telephone Survey. The State Agency Survey focused primarily on State-level commodity processing contracts in SY1987-88. SDA Directors were asked to identify the commodities that are processed or repackaged under State-level agreements, and the end-products produced from those commodities. In an effort to limit respondent burden, SDA Directors were asked to report on only the 10 commodities that were greatest in terms of USDA-assigned value. Thus, these data may underrepresent the true level of processing activity in some States.

The State Agency Survey also included questions about the use of discount, rebate, and fee-for-service systems in delivering processed products to SFAs, procedures used in selecting and monitoring processors, and the types of problems encountered during monitoring. States were also queried about local processing activity, and whether the number or type of locally-initiated contracts has changed since SY 1985-86. The final FDP-focused questions in the State Agency Survey involved changes in warehousing and distribution systems since SY 1985-86, and monitoring of commodity inventories.

State Agencies in all 50 states were contacted. Six states refused to participate; surveys for the remaining 44 States were successfully completed. The data reported in this study therefore do not represent a full census of State program operations.

Information on SFA-level operations was gathered through the SFA Manager Telephone Survey. SFA managers were asked whether they voiced preferences regarding the forms in which they received donated commodities, and the mechanisms employed in doing so. They were also asked about problems with off-condition commodities--the number and types of problems encountered and current practices in dealing off-condition commodities--and the number of official complaints they had filed in SY 1987-88 regarding donated commodities.

The survey also included an extensive series of questions on use of end-products made from processed USDA commodities. Data were collected on the prevalence and type of local processing contracts, procedures used to select and monitor processors, as well as use of and level of satisfaction with processed products produced through State and National agreements. SFA Managers were also asked to identify the accountability and record-keeping systems used in discount and rebate agreements to ensure that the value of donated commodities is appropriately credited.

STATE-LEVEL OPERATIONS

This section presents key findings from the State Agency Survey related to FDP operations at the State level. Issues addressed include State processing contracts, State reports of local-level processing activities, warehousing and distribution systems and monitoring of SFA commodity inventories.

State Processing Contracts

This section summarizes data on State-level processing contracts. It describes the extent of State-level processing activity, the commodities utilized and end-products produced, the systems used in distributing products to local SFAs, and procedures utilized in selecting and monitoring processing activities.

Prevalence and Basic Operations. The level of processing activity varies widely across States. Of the 44 States that completed the State Agency Survey, six (13.6 percent) had no processing

agreements.^{1/} Among the 38 States that did report State-level processing, most are involved at a relatively modest level. Nearly 30 percent of the States that process commodities process fewer than 5 commodities and produce less than 5 different end-products (Exhibit V.1). Eighteen percent of these States have more extensive programs, processing 10 or more different commodities.^{2/} Accordingly, the total dollar value of USDA commodities utilized in State processing agreements also varied considerably from State to State. Twenty-eight percent of States that process commodities processed less than \$500,000 worth of commodities in SY 1987-88. Twenty-nine percent processed between \$500,000 and \$2 million of commodities, and 8 percent processed \$2 million or more (Exhibit ET-V.1). Fourteen States (37 percent of those with processing programs) did not report a dollar figure.

The commodities most frequently processed or repackaged under State agreements include cheese (97 percent of all States with processing contracts), flour and oil (74 percent each), chicken (63 percent) and turkey (50 percent) (Exhibit ET-V.2)^{3/}. Approximately 47 different end-products were produced from these commodities. Pizza, bread and rolls, beef patties, chicken nuggets and salad dressing were the most common (Exhibit ET-V.3).

In disbursing processed products to SFAs, States use both rebate and discount value pass-through systems. Most States also charge fees for processing or repackaging of some commodities. Half of the States involved in commodity processing use all three

^{1/}This number includes Kansas which has a cash system statewide and hence does no State-level processing of commodities.

^{2/}Respondents were asked to report only the top 10 commodities used and the end-products produced from them. Previous studies have shown that States with very active processing programs utilize up to 30 different commodities. (Source: A Study of the State Commodity Distribution Systems, USDA, Food and Nutrition Service, 1988).

^{3/}When reporting commodity usage, most respondents specified the basic type of commodity (e.g., chicken, beef, etc.), and did not identify the form in which the commodity was received (e.g., frozen or canned; whole chicken vs. cut-up chicken).

Exhibit V.1

Number of Commodities Processed and End Products
Produced Through State Processing Agreements
(SY 1987-88)

Number of Commodities/End Products	Number/Percent of States	
	(n)	(%)
Number of Commodities Processed ¹		
1-4	11	29%
5-9	20	53
10 or more	7	18
Number of End Products Produced ¹		
1-4	11	29%
5-9	14	37
10 or more	13	34

¹Based on respondents' report of top 10 commodities utilized and end-products produced from those commodities. SFAs in the upper ends of these distributions may in fact process a greater number of commodities and/or produce a larger number of end products.

Based on N = 38 (Number of States with processing contracts).

Data Source: State Agency Survey.

systems (Exhibit V.2). Of the three, fee-for-service is the most common, used in 84 percent of States that have processing programs. Rebates are used in 76 percent and discounts in 66 percent. The end-products included in each of these systems are summarized in Exhibit ET-V.4.

More than half (58 percent) of States with commodity processing programs act as the distributor for at least some of the end-products manufactured (Exhibit ET-V.5). The end-products most commonly distributed by SDAs include turkey products (24 percent of States with processing agreements), and salad dressings (16 percent) (Exhibit ET-V.6).

Selecting and Monitoring Processors. Only 32 percent of the States involved in commodity processing consistently use competitive bids in selecting processors (Exhibit ET-V.7). Five percent of these States sometimes use competitive bids, and 63 percent never use competitive bids. Among the 14 States that solicit bids at least some of the time, 50 percent always use public announcements to solicit bidders, and 43 percent always solicit bids by invitation (Exhibit ET-V.8). One State reported that most bids are publicly advertised, but a few are by invitation.

All of the States with processing programs monitor processing activities. States most commonly audit the processor's records (73 percent), analyze the manufactured end-product to ensure that it meets specifications (63 percent), or monitor the processor's physical plant (50 percent) (Exhibit ET-V.9).

Among the 24 States that conduct product analysis, 11 (46 percent) focus on both nutritional and commodity content, 8 (34 percent) analyze products for commodity content but not nutritional content, and 1 (4 percent) focuses on nutritional content without specific evaluation of commodity content (Exhibit ET-V.10). States that conducted product analyses were asked to identify the types of problems encountered. Forty-two percent of these States reported that no problems were detected in processors' activities (Exhibit ET-V.11). Five states (21 percent) indicated that the end product(s) produced by at least one processor did not meet commodity content specifications. Four States (17 percent) found that at least one processor had credited inappropriate rebates or discounts.

Exhibit V.2

Use of Rebate, Discount and Fee-for-Service
Systems in Disbursing End Products Produced
Under State Processing Agreements
(SY 1987-88)

System(s) Used	Number/Percent of States	
Fee-for-Service, Rebates and Discounts	19	50%
Fee-for-Service Only	5	13
Fee-for-Service and Rebates	5	13
Fee-for-Service and Discounts	3	8
Rebates Only	3	8
Rebates and Discounts	2	5
Discounts Only	1	3

Based on N = 38 (Number of States with processing contracts).

Data Source: State Agency Survey.

State Report of Local Processing Activity

Exhibit V.3 summarizes State and local-level processing activity, as reported by State Agencies. In more than half of the States surveyed (56 percent) processing occurs only at the State level. In approximately one-third of the States, processing occurs at both the State and local levels. In some States that do not process commodities, local agencies fill this void by arranging for processing themselves (7 percent of all States), and in approximately 5 percent of States processing programs exist at neither the State nor local level.

As Exhibit V.4 illustrates, local-level processing is more likely to occur in States that do not have active processing programs. Only 37 percent of the States with established processing programs reported processing activity at the local level. In contrast, 50 percent of the States that do not engage in commodity processing indicated that SFAs have established processing contracts on their own. This finding is similar to results of the Study of State Commodity Distribution Systems, which noted an inverse relationship between the level of State processing activity and the level of local agency activity. ^{1/}

The Study of State Commodity Distribution Systems developed a comprehensive State-by-State profile of State-level operations in SY 1985-86, including information on the number of SFAs involved in commodity processing. In order to update FNS' information, SDA Directors were asked whether the number or type of locally-initiated processing contracts had changed over the past two years. Directors in 10 States (23 percent of States that completed the survey) indicated that the level of local activity had changed between SY 1985-86 and SY 1987-88. The State-by-State report of these changes is displayed in Exhibit ET-V.12.

Warehousing and Distribution Systems

The Study of State Commodity Distribution Systems also provided FNS with a summary of State warehousing distribution systems as of SY 1985-86. To determine whether these findings were still valid, SDA directors were asked whether any changes had

^{1/A} Study of the State Commodity Distribution Systems, USDA, Food and Nutrition Service, 1988. The results of this study can not be fully replicated using data from the Child Nutrition Program Operations Study, since the State Agency Survey did not collect data on the total number of processing agreements for each State.

Exhibit V.3

Summary of State and Local Processing Activity
(SY 1987-88)

State/Local Processing Agreements	<u>Number/Percent of States</u>	
	(n)	(%)
State only (no local)	24	56%
State and local	14	32
Local only (no State)	3	7
Neither State nor local	2	5

Based on N = 43 (Number of States that completed the State Agency Survey and supplied adequate information on State and local processing (missing = 1)).

Data Source: State Agency Survey.

Exhibit V.4

Presence of Local Processing Agreements in States
with and without State Processing Programs
(SY 1987-88)

	Local Processing Agreements							
	Yes		No		Missing		Total	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
<u>States Processing Agreements</u>								
Yes	14	(37%)	24	(63%)	0	(0%)	38	(100%)
No	3	(50%)	2	(33%)	1	(17%)	6	(100%)

Based on N = 44 (Number of States that completed the State Agency Survey).

Data Source: State Agency Survey.

occurred between SY 1985-86 and SY 1987-88 in the way commodities are warehoused and distributed, and, if so, what specific changes had occurred. Eighty-two percent of the States surveyed indicated that no major changes had been made since SY 1985-86 (Exhibit ET-V.13). Responses for the 6 States that did make significant changes in these areas are summarized in Exhibit ET-V.14.

**Monitoring of SFA
Commodity Operations**

Almost all States monitor the amount and type of commodities held in inventory by SFAs. Only two of those surveyed (5 percent) do not (Exhibit ET-V.15).

Inventories are most frequently monitored on an annual basis (37 percent of States that monitor SFA inventories). Twenty-four percent of States assess SFA inventories twice each year, 12 percent do so once each quarter, and 10 percent monitor inventories every month (Exhibit ET-V.15).

Most of the States that monitor commodity inventories require SFAs to reconcile paper inventories with physical counts; only 4 of these States (about 10 percent) do not require such reconciliation. The frequency of State-required physical inventories is most often once a year (37 percent). Another 22 percent of States require that SFAs conduct physical inventories of commodity products on a monthly basis. Just over half (54 percent) of States utilize the inventory information provided by SFAs to determine the types and amounts of commodities to be allocated during the year (Exhibit ET-V.15).

SFA-LEVEL OPERATIONS

This section presents key findings from the Year One SFA Manager Telephone survey related to FDP operations at the local (SFA) level. Issues addressed include SFA participation in the FDP, methods used to communicate preferences regarding the form in which commodities are received, the extent and types of problems encountered with off-condition commodities, and SFA complaints about USDA commodities. Also included is a discussion of SFAs' utilization of and satisfaction with processed end-products manufactured from USDA-donated commodities, including products produced through local, State and National processing contracts.

SFA Participation
in the FDP

The vast majority of SFAs participate in The Food Donation Program. Overall, an estimated 90 percent of SFAs participate in the program.^{1/} While the level of participation varies slightly among SFA subgroups, none of these differences are statistically significant (Exhibit ET-V.16).

Methods Used to
Communicate Preferences
Regarding Commodity
Forms

Most SFAs that participate in the FDP do communicate preferences regarding the form in which USDA-donated commodities are received; overall, 84 percent of SFAs indicate their preferences for specific commodity forms in one way or another (Exhibit ET-V.17)

Private SFAs are less likely to voice preferences than public SFAs--36 percent of private SFAs indicated that they do not routinely do so. In contrast, all but 11 percent of public SFAs utilize one or more mechanisms to communicate their preferences. Similarly, small SFAs are somewhat less likely to indicate specific commodity preferences than either medium or large SFAs. Over one-fifth of participating small SFAs (21 percent) do not indicate their preferences.

Many SFAs utilize more than one method to communicate preferences regarding the form in which commodities are received. One-half of the SFAs that voice preferences do so directly by ordering from their State, and rejecting donated commodities that do not meet these form specifications. Private SFAs are much more likely to communicate preferences in this manner than public SFAs (69 percent vs. 47 percent). Thirty-six percent of public SFAs utilize centralized State surveys, and 23 percent use specialized meetings or committees to communicate preferences. Private SFAs are much less likely to be involved in these group processes (Exhibit ET-V.18)

Receipt of Off-Condition
USDA Commodities

Responses from SFAs indicate that, for the most part, USDA commodities are delivered in acceptable condition. Only 17 percent of participating SFAs reported receiving any off-condition commodities during SY 1987-88 (Exhibit ET-V.19). The prevalence of off-condition commodities was fairly consistent across SFA subgroups. Large SFAs were most likely to have received off-condition commodities (27

^{1/}Estimates of non-participating SFAs include 13 SFAs in the State of Kansas (weighted value approximately 800 SFAs). Overall percentages are virtually identical when these SFAs are excluded.

percent) and high-poverty SFAs were least likely to have had problems (7 percent).

Specific problems encountered with off-condition commodities are summarized in Exhibit ET-V.20. Problems were most frequently reported for dairy products, fruits and poultry. Commodities were most frequently deemed off-condition due to spoilage. The actual number of off-condition commodities received by SFAs was relatively small as illustrated in Exhibit ET-V.21. For each commodity, most of the problems reported by SFAs involved 6 or fewer cases of food. This was particularly true for vegetables, where 75 percent of the reported problems involved only 1 case of product.

Complaints Regarding Donated Commodities

Data collected in this study indicate that most SFAs are satisfied with the commodities they receive (Exhibit ET-V.22). Twenty-two percent of SFAs did, however, have one or more problems that were significant enough to warrant filing a formal complaint with their State Agency. In SY 1987-88, these SFAs registered a total of approximately 2,452 written complaints and 5,630 verbal complaints regarding USDA commodities (Exhibit ET-V.23). On average, SFAs that did file complaints about commodities registered 1.7 written complaints and 2.8 verbal complaints.

Use of Processed End-Products

In SY 1988-89, 66 percent of SFAs that participate in the FDP obtained donated commodities in a more useable form through the use of processing (Exhibit V.5). Private SFAs and small SFAs are somewhat less likely to use processed products than other types of SFAs. Fifty-eight percent of private SFAs and 46 percent of small SFAs did not utilize processed products made from donated USDA commodities.

Locally-Initiated Processing Agreements. Thirty percent of the SFAs that used processed end-products in SY 1988-89 initiated at least one processing agreement themselves (Exhibit V.6). Local contract initiation was most common in large SFAs, where 45 percent of SFAs that used processed products had initiated at least one processing contract. Local contract initiation was quite uncommon in private SFAs; only 4 percent of the private SFAs that utilized processed products initiated local agreements.

A wide variety of commodities are utilized in locally-initiated processing agreements to produce over fifty different products. The most frequently utilized commodities include cheese, beef, flour, chicken, ground beef, and pork (Exhibit ET-V.24).

Exhibit V.5

Use of Processed Products Containing
USDA Commodities
(SY 1988-89)

	Use of Processed Products in SY 1988-1989		Total SFAs (Weighted)
	Yes	No	
TOTAL SAMPLE	66%	34%	12,847
Type of SFA			
Public	72	28	10,404
Private	42	58	2,443
Participation in SBP			
NSLP and SBP	77	23	3,623
NSLP only	62	38	9,224
SFA Size			
Small (1-999)	54	46	5,016
Medium (1000-4999)	76	24	4,604
Large (5000+)	82	18	1,657
SFA Poverty Level			
High (60% or more F&R)	62	38	1,870
Low (0-59% F&R)	68	32	9,408

Ns and percentages reflect SFAs that participate in the Food Donation Program.

Data Source: Year One SFA Manager Telephone Survey.

Exhibit V.6

Use of Locally-Initiated Processing Agreements
by Type of SFA, Participation in SBP,
SFA Size and SFA Poverty Level
(SY 1988-89)

	Use of Locally-Initiated Processing Agreements		Total SFAs (Weighted)
	Yes	No	
TOTAL SAMPLE	30%	70%	8,208
Type of SFA			
Public	34	66	7,234
Private	4	96	974
Participation in SBP			
NSLP and SBP	30	70	2,707
NSLP only	30	70	5,502
SFA Size			
Small (1-999)	14	86	2,516
Medium (1000-4999)	36	64	3,356
Large (5000+)	45	55	1,337
SFA Poverty Level			
High (60% or more F&R)	23	77	1,103
Low (0-59% F&R)	31	69	6,107

Ns and percentages reflect SFAs that participate in the Food Donation Program and utilized processed end-products made with USDA-donated commodities.

Data Source: Year One SFA Manager Telephone Survey.

The end-product most commonly produced under local processing agreements is hamburger patties; 40 percent of SFAs that utilize local processing agreements have one for the production of hamburger patties (Exhibit ET-V.25). Pizza is the next most common end-product; 34 percent of SFAs utilizing local processing agreements have one for pizza. Chicken nuggets is the third most common end-product, reported by 22 percent of SFAs that have locally-initiated processing contracts. Other donated commodities are used for a wide variety of products; with the exception of sausage and bread, no other specific end-product was reported by more than 10 percent of SFAs.

Selection and Monitoring of Local Processors.

Thirty-nine percent of SFAs with local processing agreements use competitive bid procedures in selecting food processors (Exhibit ET-V.26). Among SFAs that do use competitive bidding, bids are most frequently obtained in written form in response to a formal offering (62 percent) (Exhibit ET-V.27). Fifteen percent of SFAs that use competitive bids require that processors submit sample products for taste-testing along with price quotes. Only 10 percent of SFAs that use competitive bids limit solicitation procedures to obtaining bids over the telephone. SFAs most frequently ask for bids based on both gross and net price (37 percent). Twenty-eight percent ask for net price only, and 19 percent ask only for gross price.

When asked how they know that a product manufactured through a local processing agreement is formulated to meet their specifications, almost half of the SFAs involved in local processing (44 percent) reported that they simply trust the processor to deliver products that meet contract specifications (Exhibit ET-V.28). Thirty percent indicated that they feel assured that products will meet specifications because they use processors that have been "government approved," presumably through the CN labeling program. Seventeen percent of SFAs conduct a nutritional analysis to confirm product composition, and 11 percent weigh products received.

Use of Products Produced Under State and National Processing Agreements.

Overall, 68 percent of SFAs that utilize processed end-products purchase products that are produced under State or National processing agreements (Exhibit V.7). SFAs that purchase foods through State and National agreements are almost unanimously satisfied with the end-products they receive. Only 2 percent of SFAs

Exhibit V.7

Use of Processed End-Products Produced Under
State or National Processing Agreements
(SY 1988-89)

	Use of Processed End-Products Produced Under State and National Processing Agreements		Total SFAs (Weighted)
	Yes	No	
TOTAL SAMPLE	68%	32%	8,208
Type of SFA			
Public	72	28	7,234
Private	34	66	1,974
Participation in SBP			
NSLP and SBP	78	22	2,707
NSLP only	63	37	5,502
SFA Size			
Small (1-999)	60	40	2,516
Medium (1000-4999)	80	20	3,356
Large (5000+)	86	14	1,337
Poverty Level of SFA			
High (60% or more F&R)	73	27	1,103
Low (0-59% F&R)	74	26	6,107

Ns and percentages reflect SFAs that participate in the FDP and utilize processed end-products made from USDA donated commodities.

Data Source: Year One SFA Manager Telephone Survey.

reported that they were not satisfied with the quality of the products purchased through these agreements (Exhibit ET-V.29).

Value Pass-Through Systems and Fees-for Service. As Exhibit V.8 demonstrates, SFAs that purchase processed products may have to deal with a variety of systems in ensuring appropriate credit for the value of the donated commodities used in manufacturing or paying for processing services. Forty-four percent of the SFAs that purchase foods through local agreements deal strictly with a fee-for-service system where they pay a fee for processing or repackaging carried out by the vendor to make the product more useful. Fourteen percent of SFAs with local agreements deal strictly with rebates and another 12 percent have only discount-based agreements. The remaining 21 percent of SFAs utilize a combination of two or more of the typical financial arrangements.

Foods purchased under State and National agreements affect SFAs differently than those purchased through local agreements because rebates and discounts, which are more complex than simple fee-for-service arrangements, are far more prevalent. Thirty-five percent of SFAs that utilize these products receive all of them under rebate systems. Another 19 percent deal strictly with discounts or a combination of discounts and rebates.

SFA managers were asked a series of questions about the accounting and record-keeping practices utilized in processing agreements involving rebates or discounts. They were specifically asked how they ensure that they receive proper discounts and full, timely rebates. SFA managers were unable to provide meaningful answers to survey questions designed to address these issues. For almost all of the questions asked (see Appendix D, Year One SFA Manager Telephone Survey--Section H), data were missing for 99 percent of the cases. SFA managers were unable to describe the methods used to calculate discounts and were unaware of how discounts are (or are not) credited on invoices. Similarly, respondents were not able to provide data on the time frames involved in filing rebate claims or receiving associated payments. Given the relative importance of these procedures in assuring appropriate compensation for USDA commodities, this appears to be a topic area that bears consideration for increased training and technical assistance.

Exhibit V.8

Use of Rebate, Discount and Fee-for-Service
Systems for Processed Products Purchased
Under Local and State/National
Processing Agreements
(SY 1988-89)

Agreement/Value Pass-Through System	Percent of SFAs	Total SFAs (Weighted)
<u>Local Agreements</u> ¹		
Fee-for-Service Only	44%	
Rebates Only	14	
Discounts Only	12	
Fee-for-Service and Rebates	6	
Rebates and Discounts	5	
Fee-for-Service, Rebates and Discounts	4	
Fee-for-Service and Discounts	2	
Missing	11	
Total SFAs (Weighted)		2,422
<u>State and National Agreements</u> ²		
Rebate Only	35%	
Fee-for-Service, Rebates and Discounts	16	
Rebates and Discounts	13	
Fee-for-Service and Rebates	14	
Fee-for-Service Only	12	
Discount Only	6	
Discount and Fee-for-Service	5	
Total SFAs (Weighted)		5,561

¹N and percentages reflect SFAs that participate in the FDP, use processed end-products made with donated USDA commodities, and have locally-initiated processing agreements.

²N and percentages reflect SFAs that participate in the FDP and use processed products produced under State or National processing agreements.

Data Source: Year One SFA Manager Telephone Survey.

VI. THE SCHOOL BREAKFAST PROGRAM

This chapter addresses several research issues related to the SBP. The first involves institutional participation in the SBP, at both the district and school levels, and factors that influence decisions about whether an SFA participates in the SBP. The availability of alternative (non-USDA) breakfasts is also discussed. Next, SBP participation among severe-need schools is explored. Finally, characteristics of typical SBP meals are described.

BACKGROUND

The SBP was initiated in 1967 and targeted to "nutritionally needy" children. Legislation stressed the need for the program to reach out to low-income children, especially in rural areas where children might have to travel great distances to school, and to children of working mothers. The SBP began by operating in significantly fewer schools than the NSLP. While both programs continued to grow in the face of declining enrollments, the SBP has grown more quickly than the NSLP. Changes to the program in the 1980 and 1981 Omnibus Reconciliation Acts reduced SBP participation in each of the three reimbursement-rate categories. However participation has increased each year since FY 1982.

Federal reimbursement mechanisms for meals served in the SBP are similar to those for the NSLP. Per-meal reimbursement rates are established each fiscal year for paid, reduced-price and free meals. In addition, schools that serve a high proportion of low-income children and that have high food preparation costs may qualify for an additional reimbursement (referred to as severe-need reimbursement) for free and reduced-price breakfasts. In order to be eligible for severe-need reimbursement, a school must meet two criteria. At least 40 percent of the lunches served in the school must be free or reduced-price. In addition, breakfast preparation costs must exceed payments received through regular breakfast reimbursements. Determination of severe-need eligibility is made by State Agencies.

In recent years, efforts have been made to increase SBP participation, particularly among the low-income children the program was originally intended to serve. In order to do this most effectively, FNS requires information on factors that affect SFAs' and schools' decisions regarding participation in the SBP. FNS is also interested in determining the extent to which severe-need schools participate in the SBP. Finally, FNS requires descriptive information on the typical meal offered in the SBP, and whether or not the typical breakfast offered in severe-need schools is different from breakfasts provided in other (non-severe-need) schools.

KEY RESEARCH ISSUES

Research issues identified by FNS fall into three broad categories: (1) institutional participation, (2) participation among severe-need schools, and (3) characteristics of SBP meals. The following research questions are addressed in this chapter:

Institutional participation

- What proportion of SFAs participate in the SBP?
- What factors influence SFAs' decisions about SBP participation?
- Among participating SFAs, what proportion offer the program in all of their schools? Why do some schools within participating SFAs fail to offer the SBP?
- Do SFAs or schools that do not participate in the SBP have an alternative, non-USDA, breakfast available?

Participation among severe-need schools

- What proportion of participating SFAs have schools that are eligible for severe-need reimbursement?
- Are any schools that are eligible for severe-need reimbursement not receiving it? If so, why are these schools not receiving severe-need reimbursement?

Characteristics of SBP meals

- What types of foods do SBP programs typically offer? Are hot foods offered? Do programs allow

students to choose among a variety of different food items?

- Are meals offered in severe-need schools any different than those offered in non-severe-need schools?

DATA AND VARIABLES

Data on institutional participation in the SBP and program characteristics were collected in the Year One SFA Manager Telephone Survey. Managers were asked to report whether or not their SFA participated in the program, whether the program was offered in all of their schools or just in some of them, factors that influenced the SFA's decision to offer the SBP, and reasons that some schools do not offer the program. Managers were also asked about the number of eligible severe-need schools in their SFA, whether these eligible schools were receiving the additional severe-need reimbursement, and if not, why not. Finally, data were collected on characteristics of typical breakfasts served in the program. All of these data were readily obtained from SFA managers.

Questions on institutional participation in the SBP were also included in the Year One SFA Manager Mail Survey. Specifically, respondents were asked to identify the total number of schools in their district, the number of schools that participate in the SBP, and the number that participate as severe-need schools. Enrollment figures at each of these levels were also requested. As discussed in Chapter II, the overall response to the SFA Manager Mail Survey was less than the Telephone Survey, and rates of missing data for some variables were so high that analysis of the data was not meaningful. Such was the case for many of the Mail Survey variables listed above.

INSTITUTIONAL PARTICIPATION IN THE SBP

Overall, an estimated 27 percent of all SFAs in the Nation participate in the SBP, meaning that they offer the SBP in at least one of their schools. Public SFAs, large SFAs and high-poverty SFAs are more likely to offer the program than other types of SFAs (Exhibit VI.1).

Reasons that SFAs decide to participate in the SBP are most frequently related to the nutritional

Exhibit VI.1

Participation in the School Breakfast Program
(SY 1988-89)

<u>Participation in School Breakfast Program</u>			
	Yes	No	Total SFAS (Weighted)
TOTAL SAMPLE	27%	73%	14,259
Type of SFA			
Public	32*	68	11,275
Private	10	90	2,984
SFA Size			
Small (1-999)	20*	80	7,067
Medium (1000-4999)	27*	73	5,464
Large (5000+)‡	54	46	1,848
SFA Poverty Level			
High (60% or more F&R)	70*	30	2,267
Low (0-59% F&R)	19	81	12,112

*Difference is statistically significant at the .01 level.

‡Reference group used in comparisons: Small SFAs vs. Large SFAs; Medium SFAs vs. Large SFAs.

Data Source: Year One SFA Manager Telephone Survey and Year One SFA Manager Mail Survey.

welfare of the children. Forty-three percent of SFAs specifically cited the nutritional needs of students as a major reason for participation. Thirty percent cited the poverty level of students as an influential factor, and 28 percent felt that eating breakfast was important for childrens' intellectual functioning. Specific external influences like parental or school board pressure, the desire to receive federal subsidies, or State mandates were reported by fewer than 10 percent of participating SFAs (Exhibit ET-VI.1).

The fact that an SFA participates in the SBP is no guarantee that all of the schools in that SFA offer the program. Almost half (49 percent) of the SFAs that participate in the SBP do not offer the program in all of their schools (Exhibit VI.2). Public SFAs, medium and large SFAs and low-poverty SFAs are most likely to have schools that do not participate in the program. FNS program data indicate that the SBP is available in about 40 percent of all NSLP schools and to approximately 38 percent of all school-age children in the U.S.^{1/}.

The primary reasons that some schools in participating SFAs do not offer the program are either logistical in nature or are related to the known or anticipated lack of interest in the school's local area (Exhibit ET-VI.2). The most common reason for non-participation is that the school(s) have difficulty opening early (27 percent of SFAs). Expectation of low student participation is the next most common reason (21 percent), followed by lack of transportation (17 percent) and lack of school board interest (14 percent).

Availability of Alternative Breakfasts

Data gathered in this study indicate that students in SFAs or schools that do not offer the SBP rarely have an alternative breakfast program available to them. As Exhibit VI.3 indicates, only 12 percent of the SFAs that do not participate in the SBP offer students an alternative breakfast. Public SFAs are much more likely to offer an alternative breakfast than private SFAs. Similarly, large SFAs are much more likely to offer an alternative breakfast than either small or medium-sized SFAs.

The situation is marginally better in SFAs that do participate in the SBP but do not offer the program in all of their schools; 20 percent of these SFAs

1/Annual Historical Review of FNS Programs: Fiscal Year 1988. USDA, Food and Nutrition Service, 1989.

Exhibit VI.2

Percent of SFAs with Some or
All Schools Participating in the
School Breakfast Program
(SY 1988-89)

	Schools Participating in School Breakfast Program		Total SFAs (Weighted)
	Some	All	
TOTAL SAMPLE	49%	51%	3,849
Type of SFA			
Public	51	49	3,553
Private	24	76	297
SFA Size			
Small (1-999)	13	87	1,204
Medium (1000-4999)	59	41	1,626
Large (5000+)	64	36	1,077
SFA Poverty Level			
High (60% or more F&R)	32	68	1,087
Low (0-59% F&R)	52	48	2,820

Ns and percentages reflect SFAs that participate in the School Breakfast Program.

Data Source: Year One SFA Manager Telephone Survey.

Exhibit VI.3

Availability of Alternative (Non-USDA) Breakfast
in SFAs or Schools that Do Not
Participate in the SBP
(SY 1988-89)

	Availability of Alternative (Non-USDA) Breakfast					
	Non-Participating SFAs ¹			SFAs with Non-Participating Schools ²		
	Yes	No	Total SFAs (Weighted)	Yes	No	Total SFAs (Weighted)
TOTAL SAMPLE	12%	88%	10,410	20%	80%	1,874
Type of SFA						
Public	16*	84	7,722	20	80	1,812
Private	1	99	2,688	3	97	61
SFA Size						
Small (1-999)	5*	95	4,401	0	100	149
Medium (1000-4999)	18*	82	3,304	16	84	962
Large (5000+)‡	35	63	724	23	77	690
SFA Poverty Level						
High (60% or more F&R)	6	94	776	23	77	337
Low (0-59% F&R)	13	87	7,652	16	84	1,467

¹Ns and percentages reflect SFAs that do not participate in the School Breakfast Program.

²Ns and percentages reflect SFAs that participate in the SBP, but do not offer the program in all of their schools.

*Chi-square test of independence is statistically significant at the .01 level.

‡Reference group used in comparisons: Large SFAs vs. Small SFAs; Large SFAs vs. Medium SFAs.

Data Source: Year One SFA Manager Telephone Survey

indicated that alternative breakfasts are available in at least some non-participating schools. Private SFAs and small SFAs are least likely to offer an alternative breakfast. Large SFAs are most likely to do so.

PARTICIPATION AMONG SEVERE-NEED SCHOOLS

Reports from SFA managers indicate that approximately half (48 percent) of all SFAs participating in the SBP have at least one school in their district that is eligible for severe-need reimbursement (Exhibit VI.4). Private SFAs, large SFAs and high-poverty SFAs are more likely to have eligible schools than other types of SFAs.

It appears that most, but not all, of the eligible schools within SFAs do receive the severe-need reimbursement (Exhibit ET-VI.3). According to SFA Managers, however, 26 percent of SFAs have one or more eligible schools that are not receiving the additional reimbursement.^{1/} Based on the results of the Year One SFA Manager Telephone Survey, an estimated 2,488 schools that are potentially eligible for severe-need reimbursement are currently not receiving it.^{2/} Information obtained from SFA managers indicates that most (65 percent) of these schools have not applied for the additional reimbursement (Exhibit ET-VI.4). SFA managers that elaborated on this response stated that they had not submitted an application because of the cost accounting requirements, because the school is unable to offer the SBP, or because the school (or district) "does not need the extra money."^{3/}

^{1/}SFA Managers' assessment of severe-need eligibility is most likely based on the proportion of free meals served in each school. This is only one of two factors that determine whether a school is eligible for severe-need reimbursement and therefore, may over-represent the number of schools that are truly eligible.

^{2/}SFAs that had submitted applications and been turned down by the State were excluded from these analyses.

^{3/}Verbatim responses were too sparse to fully tabulate. The predominant explanation offered for not submitting an application for severe-need reimbursement specifically cited the cost accounting requirements as a deterrent.

Exhibit VI.4

SFA Managers' Report of
Eligibility for School Breakfast Program
Severe-Need Reimbursement
(SY 1988-89)

	<u>Presence of Eligible Schools Within SFA</u>		Total SFAs (Weighted)
	Yes	No	
TOTAL SAMPLE	48%	52%	3,849
Type of SFA			
Public	48	52	3,553
Private	61	39	297
SFA Size			
Small (1-999)	39	61	1,204
Medium (1000-4999)	45	55	1,626
Large (5000+)	60	40	1,077
SFA Poverty Level			
High (60% or more F&R)	85	15	1,087
Low (0-59% F&R)	34	66	2,820

Ns and percentages reflect SFAs that participate in the School Breakfast Program.

Data Source: Year One SFA Manager Telephone Survey.

CHARACTERISTICS OF SBP MEALS

To obtain data on the types of foods included in SBP meals, SFA managers were asked whether or not 14 specific types of food (see Exhibit ET-VI.5) were offered in the SBP in any of the schools in their district. Managers were then asked to identify the specific foods contained in a "typical" breakfast.^{1/}

As Exhibit ET-VI.5 summarizes, a wide variety of breakfast foods are available to students in the SBP. In SY 1988-89 the typical SBP meal included milk (not chocolate), citrus juice and either iron-fortified cold cereal or some type of bread or roll (these are the four items most frequently reported).^{2/} The vast majority of SFAs (86 percent) offer some hot food(s). Slightly more than half of the participating SFAs (55 percent) offer students some choice in selecting breakfast foods.

SFA managers who reported that at least one school in their district was potentially eligible for severe-need reimbursement were asked whether "enhanced" breakfasts (i.e., breakfasts exceeding the minimum SBP meal pattern requirements (as specified at that time)) were provided. Results indicate that 76 percent of SFAs with severe-need schools provided "enhanced" breakfasts (Exhibit ET-VI-6).

Among SFAs that provided enhanced breakfasts, 31 percent provided such breakfasts in all of their schools, regardless of whether the schools were eligible for severe-need reimbursement. Eleven percent of these SFAs had only severe-need schools,

^{1/}The data obtained in the Year One SFA Manager Telephone Survey provides a very general picture of the types of foods included in SBP meals. More detailed information on the characteristics of SBP meals is available in the Year Two report where data gathered in on-site meal observations are summarized.

^{2/}At the time this survey was conducted (Spring, 1989) the SBP meal pattern required only three meal components--fluid milk; fruit, vegetable or full strength juice; and one serving of a bread or bread alternate. The current SBP meal pattern, which requires four components (milk, fruit/vegetable, and either two servings of bread/bread alternate or meat/meat alternate, or one serving of each) was not effective until May 1, 1989, and not required until July 1, 1989.

and 7 percent provided the enhanced breakfasts only in severe-need schools.^{1/}

Data on the types of food typically included in SBP meals indicate that breakfasts served in SFAs with severe-need schools were somewhat more likely to include hot foods, especially hot cereal, but were less likely to offer students a choice, than breakfasts served in SFAs with no severe-need schools (Exhibit VI.5). Breakfasts served in SFAs with at least one severe-need school were also more likely to include pancakes and waffles and somewhat more likely to offer eggs, bacon, ham or sausage, cheese or peanut butter. SFAs with severe-need schools were also less likely to offer chocolate milk at breakfast.

^{1/}Data for the remaining 51 percent of SFAs that provided "enhanced" breakfasts were not complete enough to determine whether enhanced breakfasts were provided in both non-severe-need schools and severe-need schools.

Exhibit VI.5

Characteristics of Breakfasts
Served in SFAs With and Without
Severe-Need Schools
(SY 1988-89)

	Percent of SFAs With Severe-Need Schools	Percent of SFAs Without Severe- Need Schools
Hot Food		
Yes	90%	81%
No	10	19
Choice of Items		
Yes	45	63
No	55	37
Availability of Specific Foods		
Milk	100	100
Chocolate Milk	46	67
Iron-Fortified Cold Cereal	98	94
Other Cold Cereal	35	26
Hot Cereal	78	55
Citrus Juice	99	98
Non-Citrus Juice	50	49
Bread and Rolls	96	94
Doughnuts and Pastries	13	16
Pancakes and Waffles	86	65
Bacon, Ham, Sausage	79	68
Eggs	81	71
Cheese	86	76
Peanut Butter	73	65

Data Source: Year One SFA Manager Telephone Survey.

VII. MEAL COUNTING SYSTEMS

This chapter presents an overview of meal counting systems used in the NSLP in SY 1988-89, including methods used at both the school and SFA levels to monitor the accuracy of meal counts. The estimated accuracy of schools' meal counts is evaluated, and meal counting systems and types of SFAs that appear to be more prone to meal claiming problems are identified.

BACKGROUND

Federal reimbursement for school meals is provided through a "performance-based" system, i.e., assistance is earned only for meals actually served to children. Moreover, the level of reimbursement is dependent upon the approved price status of the children to whom the meals are served. That is, all meals earn general assistance but only those served to children approved for free and reduced-price meals can earn special assistance.

To ensure that reimbursement claims are accurate (i.e., that the number of meals claimed for special assistance is equal to the number of meals served to approved children), all SFAs are required to have in place a mechanism for counting the number of meals served to children in each meal reimbursement category. The system must also avoid overt identification of needy children. The meal counting procedures used are subject to review by FNS under the Assessment, Improvement and Monitoring System (AIMS).^{1/}

Audits conducted by the USDA Office of the Inspector General and administrative reviews performed by FNS indicate that, while most schools and SFAs operate

^{1/}AIMS was established in 1980 to address reported deficiencies related to financial management at the local level. Under AIMS, State agencies must review all participating SFAs every four years, performing audits or reviews that monitor SFA compliance with specific performance standards. (See Chapter I [Part 1] for a more detailed discussion of AIMS.)

in an accountable manner, there are problems with NSLP meal accountability and claiming procedures used in some schools and SFAs. According to a recent FNS review of 175 public SFAs:

- One in four schools had an inaccurate meal counting system--one that led to errors in the claim submitted for Federal reimbursement.
- The most significant problems in counting and claiming procedures occurred in large school districts.
- Inaccurate or missing information on applications was also a large source of error. Seventy-eight percent of SFAs had errors that resulted in FNS establishing a claim. Frequently the dollar value was quite small, however, and was due to correctable applications error.

In the process of conducting the review, FNS established claims of approximately \$2.8 million; 86 percent of these claims were assessed in large SFAs (30,000 or more students).1,2/

FNS would like to investigate this issue further by examining the methods currently in place to count the number of free and reduced-price meals served. Information collected in this survey will enable FNS to assist schools to work toward responsible management by identifying meal-counting systems that appear to be working well. In addition, by developing profiles of those programs more likely to have accountability problems, States can better focus their management reviews.

KEY RESEARCH ISSUES

The following research questions are addressed in this section:

- What methods do schools use to track the number of reimburseable NSLP meals served each day?

1/Source: Federal Review Final Report. USDA, Food and Nutrition Service, Office of Analysis and Evaluation, February, 1990.

2/The \$2.8 million includes claims assessed for 28 private SFAs that were also included in the Federal review.

- Do meal counting systems at individual schools include a check to see whether each child has actually taken the required items that comprise a reimburseable meal?
- What do school foodservice personnel do when a child selects a meal that does not contain a sufficient number of required items?
- Does anyone at the school check to ensure that the number of meals claimed is accurate? If so, what kind of monitoring takes place, and how often is it done?
- Do SFAs monitor individual schools to assess the accuracy of reimbursement claims? If so, how is this done?
- How accurate are the meal counts reported by individual schools?

DATA AND VARIABLES

Data to address issues related to meal counting systems were collected in both the Year One SFA Manager Telephone Survey and the Year One SFA Manager Mail Survey. The Telephone Survey included basic questions on meal counting systems used in each SFA and the methods used by SFAs to monitor meal counts submitted by individual schools.

Because data collected at the SFA level cannot give a fully accurate picture of what goes on in individual schools, the SFA Manager Mail Survey included a separate section specifically designed to collect school-level data related to meal counting procedures (see instrument in Appendix E). Respondents were instructed to randomly select one school in their district to use as a point of reference in answering a series of questions. (See Appendix B for a discussion of school-level sampling). Detailed instructions were provided so that SFA managers would select the school randomly.^{1/}

SFA Managers in public SFAs were asked to supply the following information for the selected school: enrollment (as of October 1, 1988), number of

^{1/}Since most private SFAs consist of a single school, managers in private SFAs were not asked to complete this series of questions.

potential NSLP participants, number of children approved for free and reduced-price meals (as of October 31, 1988), number of free and reduced-price lunches served in October, 1988, and the number of NSLP serving days in October, 1988. They were also asked to describe the meal counting method utilized in the selected school. Questions about steps taken to ensure that only reimburseable meals (i.e., meals containing the required number of components) are counted, and school-level monitoring activities were also included. Complete school-level data was supplied by 650 of the 977 public SFAs that completed the Mail Survey.

The school-level data supplied by SFA Managers were satisfactory for all but one key variable--the description of the meal counting system used. It appears that some SFA Managers may have misinterpreted the intent of this question. Approximately 25 percent of respondents reported multiple meal counting systems. Because it is unlikely that one individual school uses two or more meal counting systems simultaneously, these data probably reflect the full range of meal counting systems used throughout the SFA. Consequently, all discussions in this Chapter that relate to the specific meal counting systems utilized in individual schools are based on the subset of schools that reported a single meal counting system (73 percent of the full sample of 650 responding schools.)

To estimate the accuracy of reported meal counts, two ratios (used by FNS in their Federal Review process) were computed:

- Claiming ratio for free meals. This ratio reflects the proportion of the total possible number of eligible free NSLP meals that were claimed. A ratio of 1.0 indicates that the school claimed a free meal for every eligible child on every day of operation. A value exceeding 1.0 indicates that the number of free meals claimed actually exceeds the maximum number of possible meals.
- Attendance - adjusted claiming ratio for free meals. This ratio is comparable to the one described above, however, it adjusts for attendance rate. The attendance adjustment produces a decreased but more realistic estimate of the maximum number of possible free meals.

The following algorithms were used in computing these claiming ratios:

$$\text{CLMFREE} = \frac{\text{NFREE} \div \text{OP DAYS}}{\text{APPFREE}}$$

$$\text{ADJFREE} = \frac{\text{NFREE} \div \text{OPDAYS}}{\text{APPFREE} * \text{ATRATE}}$$

where,

CLMFREE = "claiming ratio for free NSLP meals";

ADJFREE = "attendance - adjusted claiming ratio for free NSLP meals";

NFREE = number of free NSLP meals served in October, 1988;

OPDAYS = number of cafeteria operating days in October, 1988;

APPFREE = number of students approved for free meals as of October 31, 1988; and

ATRATE = average daily attendance rate (SFA level) for SY 1987-88.

In interpreting results, claiming ratios derived in these analyses were compared to data from the FNS Federal Review.

MEAL COUNTING SYSTEMS

Over two-thirds of SFAs utilize two or more meal counting systems. As Exhibit VII.1 illustrates, the most prevalent meal counting system involves the use of coded tickets that indicate a child's eligibility status. Fifty-four percent of all SFAs have schools that utilize coded tickets. Use of cashier's lists or rosters is the next most prevalent meal counting system. Forty-six percent of SFAs have schools that provide lists to cashiers that identify children by name along with their related eligibility status. Other less-common systems include classroom counts that may (18 percent) or may not (17 percent) be verified at the point of service, attendance records (4 percent) and ID card scanners (5 percent).

While coded tickets and cashier's lists were the most frequently reported claiming systems for all types of SFAs, there is some variability among SFAs in use of other types of meal counting systems. In particular, it appears that schools in private SFAs

Exhibit VII.1

Meal Counting Systems Used in SFAs
(SY 1988-89)

	Coded Tickets	Cashier's List	Classroom Count	Verified Classroom Count	Attendance Records	ID Card Scanners	Other On-Site Counts ¹	Misc. Other	Total SFAs (Weighted)
TOTAL SAMPLE	54%	46%	18%	17%	4%	5%	7%	5%	14,259
Type of SFA									
Public	57	48	14	14	2	6	8	6	11,275
Private	42	35	34	25	11	0	5	2	2,984
Participation in SBP									
NSLP and SBP	59	46	15	21	2	11	5	4	3,849
NSLP only	52	45	19	15	5	2	8	6	10,410
SFA Size									
Small (1-999)	38	45	20	21	8	2	6	6	5,479
Medium (1000-4999)	70	52	15	11	3	5	6	5	4,890
Large (5000+)	74	59	7	12	0	12	8	6	1,743
Poverty Level of SFA									
High (60% or more F&R)	46	47	14	19	1	8	8	19	1,934
Low (0-59% F&R)	58	51	17	15	6	4	6	5	10,178

¹Includes tray counts, "plate" counts, uncoded ticket counts, unspecified head counts, etc.

Columns total more than 100 percent because more than one meal counting system may be utilized in any SFA.

Data Source: Year One SFA Manager Telephone Survey.

are much more likely to use unverified classroom counts than any other type of SFA. Schools in private SFAs are also more likely to utilize verified classroom counts and attendance records.

Exhibit VII.2 summarizes the meal counting systems reported for the sample of individual public schools. As the Exhibit shows, coded ticket systems are most prevalent (54 percent), followed by cashier's lists (28 percent). Approximately eight percent of schools utilize classroom counts that are verified at the point of service. Another five percent use a variety of other counting systems including tray counts, ticket (uncoded) counts, cash register tallies and the like. Unverified classroom counts and ID scanners are relatively rare (three percent or less of schools). None of the public schools included in this sample reported use of attendance records as a basis for determining meal counts.

MONITORING MEALS FOR REIMBURSABILITY

In order for a meal counting system to be fully accurate, the system must ensure that only reimburseable meals (i.e., meals containing the required minimum number of components) are counted. Such a monitoring mechanism is reported to be in place in virtually all public schools; survey results indicate that only about 1 percent of public schools do not monitor meals to ensure that they are, in fact, reimburseable meals (Exhibit ET-VII.1).

A recent Federal Review found that the meal counting system in 15 percent of public schools did not yield an adequate count of reimburseable meals, and resulted in claiming meals that did not include the minimum number of meal components, along with a la carte sales, second meals or meals served to adults.^{1/} The reason for the apparent discrepancy between the current study and the Federal Review (1 percent of schools vs. 15 percent of schools) is probably due to the fact that the Federal Review results are based on on-site observations while the data from this study reflect school policy as reported by the SFA Manager. It is not uncommon for actual practice to vary from written policy. In

^{1/}Federal Review Final Report, USDA, Food and Nutrition Service, Office of Analysis and Evaluation, February, 1990.

Exhibit VII.2

Meal Counting Systems Used in Individual Schools¹
(SY 1988-89)

	Coded Tickets	Cashier's List	Classroom Count	Verified Classroom Count	ID Card Scanners	Other ²	Total Schools ³ (Weighted)
TOTAL SAMPLE	54%	28%	3%	8%	2%	5%	72,469
Participation in SBP							
NSLP and SBP	51	39	4	3	3	0	32,095
NSLP only	57	21	2	12	0	8	40,374
SFA Size							
Small (1-999)	29	57	7	6	0	0	5,572
Medium (1,000-4,999)	47	40	5	6	0	2	26,790
Large (5,000+)	63	26	1	4	2	5	40,108
Poverty Level of SFA ⁴							
High (60% or more F&R)	73	2	11	13	0	0	3,178
Low (0-59.9 F&R)	54	30	2	8	2	5	69,292

¹Does not include schools in private SFAs.

²Includes tray counts, "plate" counts, uncoded ticket counts, unspecified head counts, cash register tallies, etc.

³Ns and percentages for each meal counting system reflect schools that used that system in SY 1988-89. Based on a subset of school-level sample -- only includes those schools where SFA Manager reported one meal counting system.

⁴Defined as follows: high poverty -- 60 percent or more of the students enrolled in October, 1988 were eligible for free and reduced-price meals; low poverty -- 0 - 59 percent of students enrolled in October, 1988 were eligible for free and reduced-price meals.

Data Source: Year One SFA Manager Mail Survey -- data reported for one randomly selected school.

fact, FNS' Federal Review found that on the day of observation, 22 percent of schools were not operating in full compliance with their own written policy. Moreover, the Federal Review indicated that the actual number of ineligible meals claimed was very small, indicating perhaps that the monitoring element was in place but not functioning 100 percent of the time.

SFA Managers were also asked to describe how cashiers or other personnel handle meals that do not contain the appropriate complement of food items when they are brought to the point of service (e.g., cashier, check out). In 86 percent of schools, the child is asked to return to the cafeteria line to pick up the missing item(s) (Exhibit ET-VII.1). In 6 percent of schools, such meals are treated as a la carte sales and the child is asked to pay for the items selected. Survey results indicate that in 3 percent of schools incomplete meals may be included in counts of reimburseable meals.

MONITORING MEAL COUNTS

The accuracy of meal counts used in preparing reimbursement claims is monitored to some degree at both the school and SFA levels. Data from the school sample indicate that meal count accuracy is monitored in 94 percent of all schools (Exhibit ET-VII.2). Monitoring is most often done on a daily basis (70 percent of schools that monitor claims), and is almost universally done by foodservice personnel, e.g., the manager, a supervisor, or a clerk. The most common approach is a simple comparison of the number of meals claimed in each category with the number of students approved for free and reduced-price meals.

At the SFA level, 85 percent of SFAs monitor individual schools to ensure that the number of reimburseable meals claimed in each category is accurate (Exhibit ET-VII.3). Most SFAs utilize more than one approach in monitoring the accuracy of submitted claims. The most common monitoring method is a comparison of meal counts against the number of approved applications for each meal reimbursement category; 96 percent of SFAs that monitor reimbursement claims use this cross-check (Exhibit ET-VII.4). Seventy-two percent of SFAs compare meal counts to attendance records, a method that is probably a much better cross-check to use in assessing validity of meal counts, since reviewers are able to identify eligible-but-absent children. Approximately two-

thirds of SFAs conduct on-site visits to monitor actual meal counting procedures.

ACCURACY OF REPORTED MEAL COUNTS

While it is not possible to fully assess the accuracy of reported meal counts without the benefit of a site visit, it is possible to identify potential overclaims by evaluating claiming percentages. In its Federal Review, FNS found that schools it had selected to review on the basis of high claiming percentages (claims of 95 percent or more of all eligible free meals for elementary schools and 75 percent or more for non-elementary schools) did in fact tend to have problematic meal counting systems.^{1/} In many of these schools, FNS reviews determined that the meal counting system was inaccurate, largely due to the use of reconstructed, rather than valid, point-of-service, meal counts.

Thus, looking at an individual school's claiming pattern for free meals is a useful, inexpensive way in which to flag schools that may have meal counting errors. In this study, free meal claiming ratios were computed with and without an adjustment for attendance rate. Means and distributions were evaluated and compared with findings from the FNS Federal Review.

Claiming Ratio for Free Meals

FNS data show that, on average, schools claim 80 free meals for every 100 applications on file (claiming ratio = .80)^{2/}. In this study, the average claiming ratio was quite comparable, at .81 (Exhibit VII.3). Schools in SFAs that participate in the SBP, schools in large SFAs, and schools in high-poverty SFAs had above-average claiming ratios of .86 to .88.

More than half (53 percent) of schools had claiming ratios above .85. Sixteen percent had ratios above .95, and 7 percent exceeded 1.0. The proportion of schools with claiming ratios in excess of .85 is larger in this sample than in the FNS Federal Review

^{1/}Federal Review Final Report, USDA, Food and Nutrition Service, Office of Analysis and Evaluation, February, 1990.

^{2/}Federal Review Final Report, USDA, Food and Nutrition Service, Office of Analysis and Evaluation, February, 1990.

Exhibit VII.3

Claiming Ratios for Free NSLP Meals Claimed
by Individual Schools
(SY 1988-89)

	Claiming Ratios for Free NSLP Meals ¹							Total Schools (Weighted)
	Mean	≤.85	.86-.90	.91-.95	.96-1.00	1.01-1.05	Over 1.05	
TOTAL SAMPLE	.81	47%	19%	19%	9%	3%	4%	115,237
Participation in SBP								
NSLP and SBP	.86	42	16	20	13	3	6	55,208
NSLP only	.81	51	21	17	6	4	1	60,029
SFA Size								
Small (1-999)	.82	62	12	6	8	5	7	8,174
Medium (1000-4999)	.80	51	22	18	6	3	0	41,501
Large (5000+)	.86	42	18	21	11	3	5	65,562
Poverty Level of SFA ²								
High (60% or more F&R)	.88	48	5	42	2	0	2	8,111
Low (0-59% F&R)	.83	46	20	17	10	3	4	107,126

¹Based on meal counts, number of children approved for free meals, and cafeteria operating days for October, 1988.

²Defined as follows: high poverty -- 60 percent or more of the students enrolled in October, 1988 were eligible for free and reduced-price meals; low poverty -- 0 - 59 percent of students enrolled in October, 1988 were eligible for free and reduced-price meals.

Data Source: Year One SFA Manager Mail Survey -- data reported for one randomly selected school.

sample (53 percent versus 44 percent, respectively).^{1/} The most likely explanation for this discrepancy is that 70 percent of the schools in this study were elementary schools, compared to 56 percent elementary schools in the FNS sample. Elementary schools are known to have higher claiming ratios than non-elementary schools.

Exhibit VII.4 compares the distributions of free meal claiming ratios found in schools using different meal counting systems. These data indicate that classroom counts, whether verified or not, as well as the less well-defined counting systems (e.g., plate and tray counts, cash register tallies, etc.) are associated with increased claiming ratios for free meals.

Attendance-Adjusted Claiming Ratios

The claiming ratios discussed above do not consider attendance and thereby may actually underestimate the likelihood of overclaiming. While it is well known that children approved for free and reduced-price meals participate in the NSLP more frequently, there is no evidence to suggest that their attendance pattern differs from that of other children.^{2/} Thus, to determine a realistic benchmark of total possible meal claims, the rate of attendance should be considered.

Exhibit VII.5 summarizes attendance-adjusted claiming ratios for free NSLP meals. When attendance is taken into consideration, 41 percent of all schools had claiming ratios in excess of .95, and 26 percent had ratios above 1.0. Again, while these findings indicate a somewhat greater occurrence of excessive meal counts than was found in FNS' Federal Review, the increased number of elementary schools in this sample may account for much of the discrepancy. In the Federal Review 47 percent of focused schools (76 percent of which were elementary schools) were found to have attendance-adjusted claims ratios that exceeded 1.0 on 8 or more days during the month of review.

^{1/}FNS found 44 percent of schools had claiming ratios above .85; 7 percent exceeded .95; and 2 percent exceeded 1.0.

^{2/}As mentioned in Chapter III of this report, a comparison of attendance rates in high-poverty SFAs (SFAs with large proportions of free and reduced-price meals) and low-poverty SFAs revealed no significant differences.

Exhibit VII.4

Claiming Ratios for Free NSLP Meals for
Different Meal Counting Systems
(SY 1988-89)

Meal Counting System	Claiming Ratio for Free NSLP Meals ¹			Total Schools (Weighted) ²
	≤.85	.86-1.00	Over 1.00	
TOTAL SAMPLE	48%	49%	4%	72,468
Coded Tickets	48	49	4	39,309
Cashiers Lists	62	35	3	20,535
Classroom Count	28	72	0	2,114
Verified Classroom Count	8	84	8	5,945
Scanners	52	48	0	1,123
Other ³	40	60	0	3,443

¹Based on meal counts, number of children approved for free meals, and cafeteria operating days for October, 1988.

²Ns and percentages for each meal counting system reflect schools that used that system in SY 1988-89. Based on a subset of school-level sample -- only includes those schools where SFA Manager reported one meal counting system.

³Includes tray counts, "plate" counts, uncoded ticket counts, unspecified head counts, cash register tallies, etc.

Data Source: Year One SFA Manager Mail Survey -- data reported for one randomly selected school.

Exhibit VII.5

Attendance-Adjusted Claiming Ratio for Free NSLP Meals
 Claimed by Individual Schools
 (SY 1988-89)

	Attendance-Adjusted Claiming Ratio for Free NSLP Meals ¹						Over 1.05	Total Schools (Weighted)
	Mean	≤.85	.86-.90	.91-.95	.96-1.00	1.01-1.05		
TOTAL SAMPLE	.88	31%	10%	18%	15%	15%	11%	115,237
Participation in SBP								
NSLP and SBP	.93	26	7	22	13	18	14	55,208
NSLP only	.88	35	14	14	16	12	9	60,028
SFA Size								
Small (1-999)	.89	41	10	18	6	15	12	8,174
Medium (1000-4999)	.86	39	10	19	15	11	6	41,501
Large (5000+)	.93	24	11	17	16	17	15	65,562
Poverty Level of SFA ²								
High (60% or more F&R)	1.01	7	1	24	23	20	25	8,111
Low (0-59% F&R)	.90	33	11	18	14	14	10	107,126

¹Based on meal counts, number of children approved for free meals, and cafeteria operating days for October, 1988. Average SFA attendance rate for SY 1987-88 used in adjusting for attendance.

²Defined as follows: high poverty -- 60 percent or more of the students enrolled in October, 1988 were eligible for free and reduced-price meals; low poverty -- 0 - 59 percent of students enrolled in October, 1988 were eligible for free and reduced-price meals.

Data Source: Year One SFA Manager Mail Survey -- data reported for one randomly selected school.

The Federal Review also found that problems with excessive meal counts were most prevalent in schools in large SFAs. This study found a similar pattern; the mean attendance-adjusted claiming ratio for free meals for schools in large SFAs was .93, compared to .86 and .89 for schools in small and medium-size SFAs respectively.

Exhibit VII.6 summarizes attendance-adjusted claiming ratios for the various meal counting systems. After adjusting for attendance, 44 percent of schools with classroom counts and 23 percent of schools with verified classroom counts had claiming ratios which exceeded 1.0.

Exhibit VII.6

Attendance-Adjusted Claiming Ratios for Free NSLP Meals for
Different Meal Counting Systems
(SY 1988-89)

Meal Counting System	Attendance Adjusted Claim Ratio for Free NSLP Meals ¹			Total Schools (Weighted) ²
	≤.85	.86-1.00	Over 1.00	
TOTAL SAMPLE	33%	44%	23%	72,468
Coded Tickets	32	46	22	39,309
Cashiers Lists	46	29	26	20,535
Classroom Count	11	44	44	2,114
Verified Classroom Count	1	76	23	5,944
Scanners	50	36	14	1,123
Other ³	40	53	8	3,443

¹Based on meal counts, number of children approved for free meals, and cafeteria operating days for October, 1988. Average SFA attendance rate for SY 1987-88 used in adjusting for attendance.

²Ns and percentages for each meal counting system reflect schools that used that system in SY 1988-89. Based on a subset of school-level sample -- only includes those schools where SFA Manager reported one meal counting system.

³Includes tray counts, "plate" counts, uncoded ticket counts, unspecified head counts, cash register tallies, etc.

Data Source: Year One SFA Manager Mail Survey -- data reported for one randomly selected school.